

AMERICAN ARTISAN and Hardware Record

Vol. 82. No. 20.

620 SOUTH MICHIGAN AVENUE, CHICAGO, NOVEMBER 12, 1921.

\$2.00 Per Year.

4 Great "**MILCOR**" Specials



KUEHN'S
ORREKT
ORNER

Made
in
One
Piece

Full depth
and
full girth

Reinforced
at Corner

No Seam
to obstruct
free flow
of water

Is the gutter for dealers
to buy -
Saves money in labor-that's
one reason why;
More rigid, more perfect, and quick
to install.
And that's why "Crimpedge"
has the edge
on them
all.

MILWAUKEE CORRUGATING CO.

Branch Office and Factory, Kansas City, Kas.
Minneapolis Sales Office, Lumber Exchange

MILWAUKEE, WIS.

KUEHN'S
ORREKT
UT-OFF

(Patented)

Galvanized
After
Formed

No solder
used

Made Plain,
Round,
Corrugated
and Square



"Milcor"
Flat Crimp Elbows

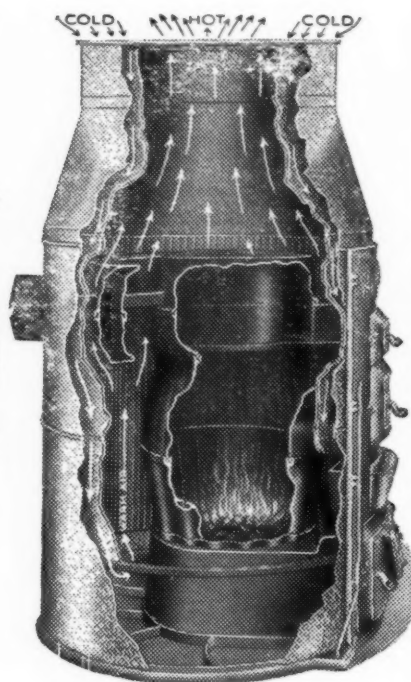
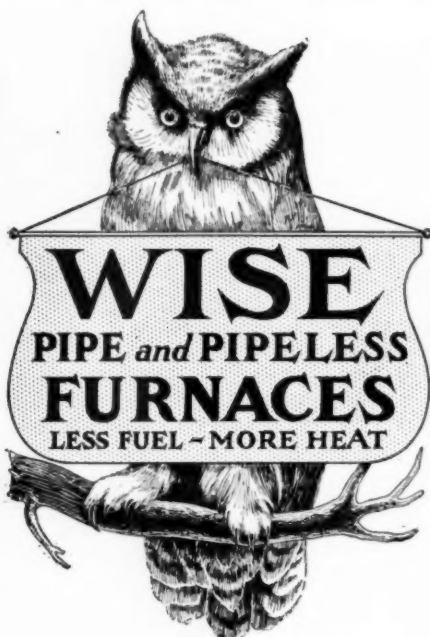


KUEHN'S KORREKT KORNER
Made in One Piece



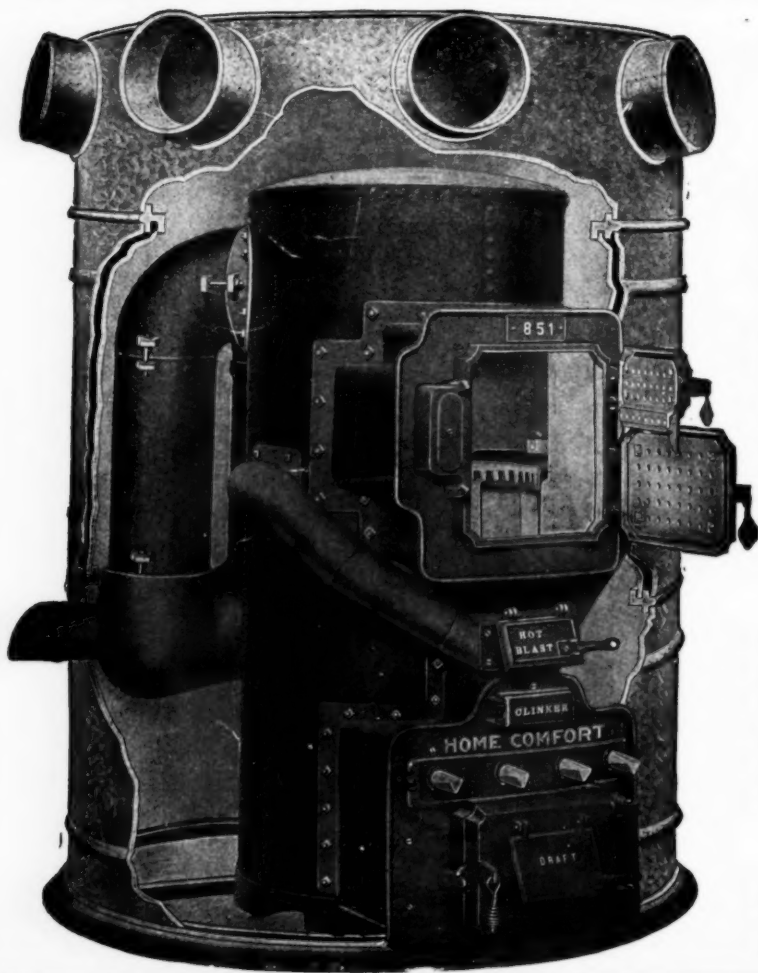
Kuehn's Korrekt Kut-off

The Wide Awake Dealer's Choice



For exclusive territory rights address

THE WISE FURNACE CO. - - AKRON, OHIO



"HOME COMFORT"

**THERE ARE NO BETTER
WARM AIR HEATERS**

THE dealer who sells "Home Comfort" warm air heaters sells heaters that are not only exceptionally reliable but distinctively well made.

An examination of the ALL STEEL construction of "Home Comfort" warm air heaters will reveal to you an unusually well designed heating apparatus.

***For many years they have been
real money makers***

The members of this new company are men who have been connected with the original makers for more than twenty years.

We have a splendid exclusive agency sales plan to offer you.

Let us tell you all about it.

Write today for our catalog

ST. LOUIS HEATING CO.

2400-06 COLEMAN ST.

ST. LOUIS, MO

FOUNDED 1880
BY
DANIEL STERN
Thoroughly Covers
The Hardware, Stove,
Sheet Metal, and Warm
Air Heating and Venti-
lating Interests

AMERICAN ARTISAN and Hardware Record

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AND
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TERMS OF SUBSCRIPTION IN THE UNITED STATES AND ITS POSSESSIONS (Invariably in Advance) ONE YEAR POSTAGE PAID \$2.00
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Vol. 82. No. 20.

CHICAGO, NOVEMBER 12, 1921.

\$2.00 Per Year.

WHERE IS THE MAN WHO CAN AND WILL BUY WHAT YOU WANT TO SELL?

If you knew just what every man and woman in your trading territory wanted to buy and also knew something about their ability to pay—

You would sell more of your goods to some of them.

If you class yourself among the aggressive, "go-getter" group of merchants—

You will certainly secure more business from some of them—

And you will induce more than you have now as regular customers to come to your store for their needs and wants in hardware, stoves, washing machines, electrical appliances, housewares, furnaces, sheet metal work, etc.

And we believe that YOU belong in that class, or you would not be one of our subscribers.

Now then:

The chief point is—how can you ascertain what the needs and wants are of the people in your trading territory?

Can you think of any more effective method for finding out than the method of asking them?

They will not tell you?

We know that they will, if you go about it in a pleasant way.

The basis for this statement is found in the experience of the thousands of successful merchants who have built up their successes by ascertaining from their prospective customers what they are in need of and then by going after these prospects, tooth and nail, until their wants are filled.

There are two ways of learning of these needs and wants.

Many merchants have a monthly mailing

card on which they tell about their seasonable merchandise. A part of this card has a list of articles printed on it and the prospect is requested to check off such items as he may be considering. To induce him to bring it to the store there is usually an offer of some unusual bargain which can only be obtained by presenting the card in person.

Another—and we believe a more effective—method is that which has become more common during the past five years.

It is that of the personal representative of the store.

The automobile has made this method much more economical than was possible when the buggy had to be used because more calls can be made in a day than formerly.

Usually this representative carries samples of a number of articles for which orders are taken and which are either delivered by parcel post or by the canvasser when he comes on his next tour.

There is no question about the feasibility nor about the matter of profits, as to this method, for wherever it has been tried and in earnest, it has always paid out in large increases of sales and greater profits.

In fact, there are several lines that never amounted to much in the hardware store until the merchant canvassed his territory in just this manner.

The really progressive hardware man makes it a point to know definitely what Mrs. Jemima Jones wants and then he makes a specific effort to fill that want—

At a good profit to himself.

That is real service.

That is also why such effort always shows a profit worth while.

Random Notes and Sketches

By Sidney Arnold

When Frank E. Ederle of Grand Rapids, Secretary Michigan Sheet Metal Contractors' Association, was in Lansing at the meeting of the Trade Extension Board, the town was all agog, he says, over a puzzling case of identity:

"But what," asked the coroner, "is the mystery about the dead man's identity. Cards and letters were found in the pockets, were they not?"

"That's what makes it so confusing," replied the clever detective. "The initials were the same as those upon the umbrella he carried."

* * *

Here is a Scotch story related to me by I. D. Allison, sales manager Copper Clad Malleable Range Company, St. Louis, Missouri:

An old Scotchman, David Gordon, was seriously ill, with scant hope for recovery. He had been wheeled into making a will by relatives, and these were now gathered about his bedside watching him laboriously sign it. He got as far as D-A-V-I—then fell back exhausted.

"D, Uncle David, D," exhorted a nephew.

"Dee!" ejaculated the old Scot feebly, but with indignation. "I'll dee when I'm ready, ye avaricious wretch!"

* * *

H. R. Beatty of Clinton, Illinois, President Illinois Retail Hardware Association, says that the dealer will find his troubles less troublesome if he takes the trouble to look for the humorous element in his troubles. President Beatty cites the case of a hardware dealer who hired a man to work for him as a vacuum cleaner canvasser.

Here is the way the canvasser reported on one of the prospects:

"The dame let me demonstrate the machine till I made her best rug look like new and then all I got was a demand for a quarter of a dollar to pay for the electricity she estimated I'd used."

* * *

Discussing the exaggerations of the calamity-howler, R. W. Blanchard, of the Chicago office of Hart & Cooley Company, tells this story:

An old boy living out in the rural section dropped in one day to see the manager of the largest hotel in the city, to whom he made known the fact that he had some frogs' legs for sale—at least two carloads of 'em.

The manager appeared credulous, but he said:

"As a try-out, next time you come to town, you can bring us two dozen frogs, and if they are satisfactory, you can count on us for a large order regularly."

About a week later the frog man entered the hotel office with a small paper box and handed it to the hotel manager.

Opening the box, the manager found one lone frog spread out in the carton.

"Man alive, I ordered two dozen frogs, not just one."

"Yes, I know, but that is all I had."

"But you told me you had at least two carloads on your place—what about it?"

"Wal, I thought I had more than that by the noise that was coming from that pond, but after draining off all of the water, I found this one bull was raisin' all the hell."

* * *

Diplomacy is applicable to nearly every problem of life, declares Arthur J. Scott, Secretary Michigan Retail Hardware Association, Marine City, Michigan. He cites an examples, thus:

"No, I shall marry only a brave man," said the maiden firmly.

"But you must admit that it takes bravery for a poor mutt like me to propose to such a beautiful and talented girl," countered the suitor.

So they lived happily ever after.

* * *

Conscience is elastic in some cases, says Gus Albrecht, Louisville, Kentucky, former president of the Kentucky Hardware & Implement Association. He cites this example:

"Miss Plain says you told her she was pretty. How does your conscience stand the strain?"

"Oh, I told her the truth."

"The truth? You don't really mean to say you think—"

"Of course not. I told her she was as pretty as she could be. That's safe."

* * *

Acknowledgment is hereby made to "Josh" Billings of the Payson Manufacturing Company, Chicago, Illinois, for the pleasurable humor of the following tale:

Probably it annoys you, too, to hear some one's telephone ringing and nobody making any move toward answering it.

In the opera "Aida" one of the scenes was laid "in front of the Temple of Isis."

At the close of the scene the curtain signal was given with a bell buzzer which was heard all over the house.

The operator of the curtain was evidently slow in answering, for the bell continued to ring, and a woman in the audience said:

"The telephone in the temple is ringing—why in the world doesn't the high priest go in and answer it?"

* * *

"Why Don't You Whistle?"

Sometimes, when things look bleak and blue
and pull upon my senses,
When I've allowed myself to view
the world through darkened lenses,
When skies seem tinged with smoke and soot,
and every flower a thistle—
This question to myself I put:
"Old boy, why don't you whistle?"

Don't let some morbid brooding hold
You in its bondage fearful,
But pipe some aria of old
Whose notes are sweet and cheerful.
If you should ask me to indite
A heartening epistle
Unto mankind, this would I write:
"Do not forget to whistle."

—Detroit News.

Fred Lanz Has Been Selling Hardware Since 1887 But His Methods Are Up-to-Date.

This Wisconsin Hardware Merchant Goes Out After Business and Develops New Trade by Modern Methods.

There are hardware dealers—and then there are hardware merchants.

Those in the first class “deal” out hardware to those who come and ask for things that they have made up their minds to buy. In most cases these men are now complaining that business is very poor, and stating that it will not get better until prices come down to the 1914 levels or thereabouts.

Then there is the man who is constantly working to find customers for the things he has to sell. He

Fred Lanz belongs in the merchant class. You realize it the moment you step into his big double store in Monroe, Wisconsin.

Incidentally, you know also when you look around that Fred thinks pretty well of sheet metal, for the portion of his store which is shown in the photograph reproduced herewith has a handsome metal ceiling.

Then there is the long row of show cases in which all sorts of cutlery, electrical appliances, silverware, etc., are displayed in attractive manner.



Interior View of New Portion of Fred Lanz Hardware Store, Monroe, Wisconsin. Also Showing Display of Monarch and Paramount Malleable Ranges.

is not satisfied with waiting for people to come and tell him that they want to “look at a range.”

No, sir, he knows that Mrs. Jim Smith ought to be in the market this fall for a range and he makes it a point to work up her interest in the particular range that he sells, so that when she is ready to buy, she will be thoroughly posted on his range and that she is predisposed in his favor, even though she may go to other stores just to satisfy herself that she is getting the best value for her money when she does buy the range from him.

For many years, Fred had handled a formerly well known make of ranges, but he had come to the conclusion that it was time to make a change, so last February he put in a line of Monarch Malleables, and up to this time he has sold nearly thirty Monarchs and Paramounts, which is not such a bad record for this year. In fact, everything considered, it is considerably better than the average.

The photograph shows the special display of these ranges which was arranged during a three-day demonstration sale in the early part of October this year.

Mr. Lantz stands behind one of the show cases and H. W. Smith, the Monarch representative, is the other man in the picture.

An interesting by-play was witnessed by the writer of this article during his visit to the store while the sale was in progress, which shows how Mr. Lantz stands on the matter of "coming down on the price," once he has quoted a figure:

A farmer, accompanied by his wife and another woman, came in and after a thorough demonstration, said that they liked a certain type in the Monarch exhibit, also that they were willing to pay the price asked, but that they thought that Lantz should deliver it without charge to their home, fourteen miles out in the country, the amount which was asked for the delivery being \$3.00.

To this Lantz said he could not agree, and they left, a little later entering another hardware store where they looked at ranges, but evidently they did not find what they wanted, for in about an hour they returned to Lantz's store and after another attempt to "jew off" the \$3.00 delivery charge, made the purchase, paying cash.

The three days' demonstration resulted in direct sales of nine ranges and six more were sold since then to prospects whose names were taken at that time.

A reproduction of the four-column, ten-inch ad-

few hours, and the second sale resulting in sales of \$527.00.

The ware was practically all of spun aluminum of fairly heavy grade and nicely finished. Mr. Lantz says that he has not had any trouble in getting the regular price for these goods since the sale came to a close.

The Lantz store, like so many other hardware stores in country towns, has a warm air furnace and sheet

FREE

During this Sale with every Paramount Gas-Coal Range

During this Special Sale We will give a handsome Home Comfort Bread and Cake Cabinet to every purchaser of a PARAMOUNT Malleable Gas-Coal Range.



SALE ALL NEXT WEEK

A SPECIAL ASSISTANT FROM THE FACTORY WILL BE HERE TO THOROUGHLY EXPLAIN THIS RANGE.



Don't Overlook

This opportunity to buy a PARAMOUNT Gas-Coal Range at a price which cannot be duplicated. Remember this is a Special Sale and it will be necessary to act quickly. Your cooking hours will be made more pleasant and you will be proud to tell your friends about the

Paramount

FRED LANZ HARDWARE

ESTABLISHED 1887. BUSY EVER SINCE

Newspaper Advertisement Announcing Demonstration Sale of Paramount Gas-Coal Ranges. Published by Fred Lantz, Monroe, Wisconsin.

vertisement announcing the demonstration sale is shown herewith. It will be noted that a bread and cake cabinet was offered with every range.

Fred Lantz thinks quite well of aluminum ware as profitable line to carry, as demonstrated by the fact that in four weeks he has held two Week-End Triangle Sales of aluminum cooking utensils, the first one having stopped because the stock was exhausted in a

AS PREVIOUSLY ADVERTISED

Week End Cash Triangle Sale

All Day Friday and Saturday

QUALITY BRAND ALUMINUM WARE

We wish to call your attention to the fact that we have a very large supply of 49c aluminum ware. Many 49c bargains which we did not have at our previous sale.



This sale will attract crowds of buyers. We urge an early attendance as you won't be disappointed. Every article is genuine Quality Brand Aluminum Ware guaranteed for 10 years - made from 99% pure hard aluminum metal.

Your Choice of any piece in this lot for 1c Each. REGULAR 10c to 50c VALUES.

Sale Starts Friday Morning at 8:00 A. M.

EVERY thrifty housekeeper should take advantage of this sale. The supply is limited - so come early.

Your Choice of any piece in this lot for 49c Each. REGULAR 50c to \$1.00 VALUES.



Remember we have many new aluminum bargains. Extra Heavy Quality.

Your Choice of any piece in this lot for \$1.39 each. REGULAR \$1.50 to \$2.00 VALUES.



Special for this sale

HEAVY LARGE ALUMINUM Dish Pan

\$1.39

We have Made a special purchase of a large number of Round Roasters. Priced to you at

This Sale 95c

Fred Lantz Hardware

Established 1887. Busy Ever Since Monroe, Wisconsin

Announcement of Aluminum Ware Sale That Resulted in Sales of \$527.00 in Two Days.

metal shop in connection, and all during the past year seven men were employed in this shop on new and repair work. Rudy warm air furnaces are boosted very highly and various sorts of advertising matter is always being distributed to create an interest on the part of visitors to the store as well as others who are reached by mail.

One of the new departments of the sheet metal shop is that of automobile radiator repairing, and usually there are from six to ten radiators in the shop to be fixed up. The sale of new radiators is also a comparatively new venture in the hardware store proper, which is paying well.

Mr. Lantz believes in making use of his four good-sized windows and always has good looking displays. At the time the writer visited there, a Paramount Malleable gas and coal range was in one of the windows, together with colored posters showing some of the more important features of the range.

Another had a motion effect, operated by a small electric motor, the subject being hunters' supplies.

The third window showed cooking utensils and in the fourth wash day supplies were displayed.

Note, by the way, the little notation below the firm name, "Established 1887. Busy Ever Since."

Thirty-four years is a long time for a man to be in

the hardware business, but while Fred is pretty well along in years, he is still active in the store, although his son is taking some of the responsibilities off his shoulders.

They make a good team, and many a hardware dealer who wants to graduate into the merchant can learn a good deal from visiting their store and talking with them.

Good Ideas for Window Display

*Practical Lessons from Exhibits in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.
How to Get More Passers-By to Come into Your Store.*

THANKSGIVING WINDOW DISPLAY HAS ORIGINALITY.

Here is a Thanksgiving window that is different from the common run of such displays.

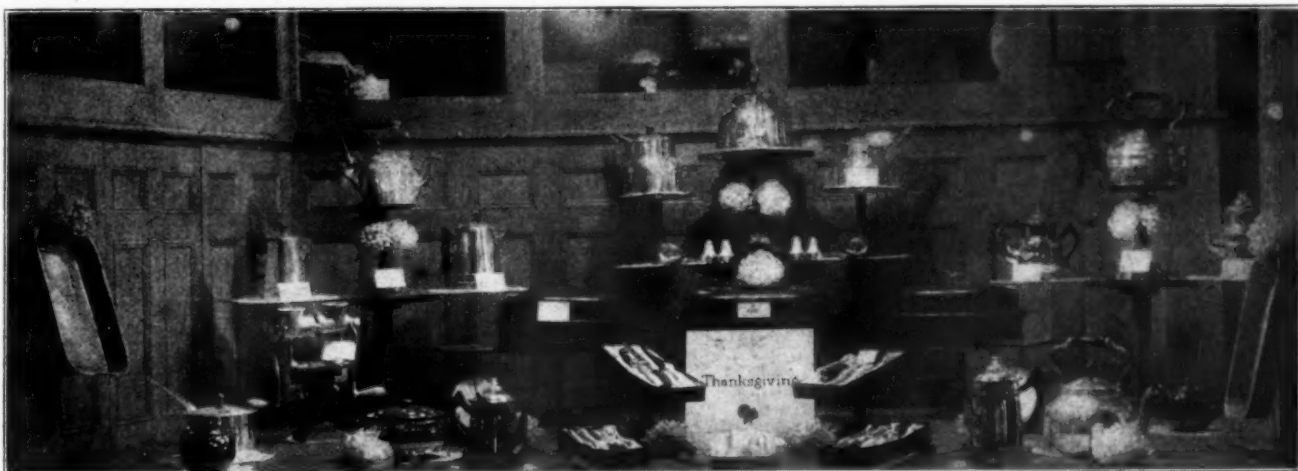
It has originality.

It is agreeably free from conventional illustrations of turkeys and cut out of Puritan with bell-mouthed gun hunting the festive and succulent bird while arrows from Indians concealed behind convenient trees are flying in all directions about the hunter, with one

the oak pedestals of several different heights and sizes and the glass shelves. Yet the effect is much more pleasing than if elaborate and complicated paraphernalia were used.

Window advertising bears many similarities to newspaper advertising.

In newspaper advertising it has been proved by comparative tests that open spaces give the necessary margin, as it were, to descriptions and illustrations and thereby afford a contrast agreeable to the eye of the reader.



Window Display of Thanksgiving Supplies Planned and Arranged by Miss Edna L. Jenison, for Petersen Brothers, Incorporated, 7905-7 Third Avenue, Brooklyn, New York.

or two arrows sticking through the crown of his high hat.

You can shut your eyes and almost see from memory a typical Thanksgiving window display. Its arrangement and materials are so familiar year after year that it has lost much of its power to hold the attention of the passer-by.

It is refreshing, therefore, to find a Thanksgiving window display which is a distinct departure from the conventional type.

The artificial chrysanthemums scattered throughout the arrangement add a touch of color to the display and serve the purpose of catching the eye of the passer-by.

The chrysanthemums also give an effect of daintiness to the window display and thus serve to heighten the general neatness and brightness of the exhibit.

Lace paper doilies were used under the percolators, tea kettles, etc., thus contributing to the impression of the essential cleanliness of the cooking utensils on display.

The only fixtures required to make this display were

In the window display under consideration, we get the same effect as liberal white space in the newspaper advertisement produces, namely, ample contrast to help out the emphasis.

The passer-by would be more likely to examine closely the percolators, tea kettles, carving sets, etc., of this exhibit because the articles are not crowded together. Each one is individualized.

Just as the right kind of newspaper advertising with plenty of thought bestowed upon the layout of type and illustration brings the biggest returns, so the same principles applied to window advertising results in the largest sales.

Stove Company Increases Its Capital Stock.

The Bellaire Stove Company, Bellaire, Ohio, has received authorization to increase its capital stock from \$50,000 to \$100,000.

When the lion withdraws the hyenas play.

Can Guns and Ammunition Be Sold at the Present High Prices?

Jerry Maintains That Even Though Prices May Be Too High Now, the Real Salesman Can Sell Enough to Make the Department Pay.

Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by Jerry Gerlock, Hardware Merchant.

I was at a group meeting attended by about fifty hardware merchants in Wisconsin a few days ago, and we discussed collections which we all agreed could be much better. We talked about buying and selling and then somebody said, "What about guns and ammunition? We have quite a stock on hand, but they do not seem to move very freely, and we think it is because of the high price we have to sell them at in order to make a little profit on them."

One dealer said that he could not see much use in cutting the price on them, as there was no prospect; so far as he knew, of buying them any cheaper for next season, so he was in favor of keeping them if he could not sell them at his regular prices. Incidentally, he was quite free in his expressions about the "unfairness" of manufacturers who were not reducing their prices to fit in with new conditions.

Another merchant took just the opposite stand. He held that even if the guns and shells were sold at a cut price they would yield a profit because the money realized from the sale could be invested in quicker moving merchandise on which a fair profit could be made, before another opportunity to sell the guns would come.

Even if then he would have to pay the same price next year, he would be money ahead, he said.

I am inclined to agree partly with the second merchant, for there is certainly no money in keeping high-priced goods on your shelves—at any time.

But I do not agree with those who say that you can not sell guns and ammunition at prices which will allow a reasonable net profit. You may not be able to sell as many shot guns, nor as many shells this Fall as you did two years ago, for the simple reason that money is not being spent quite so freely now as it was in 1919, but the attitude of the first named dealer, if generally adopted, would simply result in adding to your dead stock and thus increasing the cost of doing business, which means less profits in the long run. So why not take that loss now and make some profits with the money you receive for the gun?

Entirely aside from the question of price, my own experience has proven to me that if you go after gun business with a bit of real enthusiasm you can sell

some at any price, so long as it does not look altogether unreasonably high.

In other words, if you get the prospect to think about the lot of ducks he can "bag" with the right sort of gun or with the right kind of shells—which, of course means the kind you sell—the price itself does not cut a great deal of figure, so long as it is not altogether unfairly high.

So I am not worrying about the high prices on guns and ammunitions, although naturally I would like to see them come down—and I believe they will in due time.

And when the hunting approaches, and while it lasts, I hammer away on the satisfaction that a good sportsman gets out of the fine gun he can buy from me and how necessary it is to equip himself with the right sort of tools for this particular job—for, of course, hunting is a job and to do it right, one must have the proper tools, even if they cost a little more than one would like to pay.

Here is a clever advertisement that I noticed the other day in the Boise, Idaho, *News*. As you see, it is not very large—only one column in width and five inches long.


But there are several points about this advertisement that make it a "bull's eye" shot.

First, the little cartoon at the top. I presume that the Sweet-Teller Hardware Company use a different cartoon for each line of goods they advertise.

The name of the little fellow is Handy Andy; he is equipped with a double-barreled gun and has bagged several ducks, so he is quite appropriately "dressed" for the occasion even to his high top rubber boots without which no duck hunter would get many ducks.

And then note what Handy Andy says: "When a fellow goes gunning for ducks or any other game, he can be more sure of bringing back a full game bag if he has the right kind of guns and ammunition along."


"This is a favorite store with good sportsmen, because we've always taken an interest in hunters' and fishermen's needs. We select our stock of guns, rifles, shells and other hunting needs with utmost care, because they mean a lot when the game comes in sight."



Handy Andy Says—

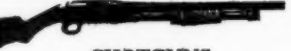
When a fellow goes gunning for ducks or any other game, he can be more sure of bringing back a full game bag if he has the right kind of guns and ammunition along. This is a favorite store with good sportsmen because we've always taken an interest in hunters' and fishermen's needs. We select our stock of guns, rifles, shells and other hunting needs with utmost care because they mean a lot when the game comes in sight. We'll be very glad to show you our goods. Mr. Hunter, whenever you ask to be shown. That is when it's convenient. (Thank you!)

SWEET-TELLER HARDWARE CO.



SHOTGUNS
Remington Automatic
Remington and Stevens
Pump Guns
L. C. Smith—Ithaca and Enders
Double Barrel
Stevens Single Barrel

DUCK GOODS
Western
Field and
Record
U. M. G.
Nitro Club and
Arrow



RIFLES
Remington—Savage—Winchester

Sweet-Teller Hardware Co.
The Keen-Knitter Store—The Brighten Up Store

"We'll be very glad to show you our goods, Mr. Hunter, whenever you ask to be shown. Drop in when it's convenient.

"I thank you."

Then there is the picture of the two decoy ducks, so that we have plenty of "live" illustrations in the advertisement.

A shot gun and a rifle, with a list of the various brands complete the advertisement, and I am willing to bet a good hat that if you write to the Sweet-Teller Hardware Company, Boise, Idaho, and ask them if their advertisement brought returns, they will tell you that they are well satisfied and that the price

of newspaper advertisements, circular letters, folders, and the like, but also by the right kind of window display.

The newspaper advertisement is quite helpful in drawing attention to the store's facilities for supplying the needs of the hunter.

But the window advertisement puts the finishing touch upon all the other forms of publicity because it presents to the passerby or to the prospective buyer who has taken the trouble to come to the store in answer to the appeal of the newspaper advertisement or the circular letter or folder, the actual goods themselves in a setting which stimulates the imagination.



Window Display of Guns and Hunting Supplies, Designed and Arranged by W. F. Toune and Lutsey Brei for the Hammond Hardware Company, Shawano, Wisconsin.

question was not such an important point in making any of the sales.

Here is my idea as to business in this class of hardware:

If a man really wants to buy a good gun it is most vital that I can prove to him that what I have to offer him will fill his want and that he will be satisfied and pleased with his purchase, and if I can do that, there will be very little discussion about the price.

But to get him into that frame of mind, I must know something more about a shot gun than that it has one or two barrels, or that it is made by John, Dick or Harry, and if I do not know enough about guns I let somebody who does know—preferably a man who goes a-hunting himself—handle this class of customers.

Of course, I realize that it is of first importance to gain the attention of the sportsman not only by means

A thing is always more desirable when it is pictured in connection with the environment in which it is employed or in conjunction with some or many of the uses to which it may be put.

In bringing hunting guns to the notice and service of such of my customers as have the time and inclination for sportsmanship, I am always on the lookout for suggestions from gainful window displays.

Here is one which has numerous suggestions which can be adopted or modified by any alert hardware dealer.

It is a window display which was arranged by W. F. Toune and Lutsey Brei for the Hammond Hardware Company, Shawano, Wisconsin.

I was sufficiently interested in it to write to the Hammond Hardware Company and this is the brief description which they sent me:

"This window is constructed of slabs, with the bark side toward the window and so built that it can be

used again, being made in sections as to be easily taken down.

"The sides are made of two pieces, the back of two pieces, and the roof of one piece.

"The slabs are four feet long, making the window actually four feet deep when looking into it from the outside, eight feet wide and six feet high.

"The hunting accessories in this window are changed every day as to their arrangement, thus keeping alive the interest and avoiding the monotony of having the same display day after day."

Take a hint from the Sweet-Teller Hardware Company's newspaper advertisement and the Hammond Hardware Company's window displays.

Combine these two forces and go after the business. You will find that it pays.

Stove and Warm Air Furnace Makers Discuss Cost Systems.

Members of the Western Central Association of Stove Manufacturers and of the Midland Furnace Club, met Wednesday, November 9th, at Hotel Drake, Chicago, for the discussion of cost systems and other factors affecting the foundry business.

The gathering was one of the largest in the history of the two organizations, ninety-eight being in attendance.

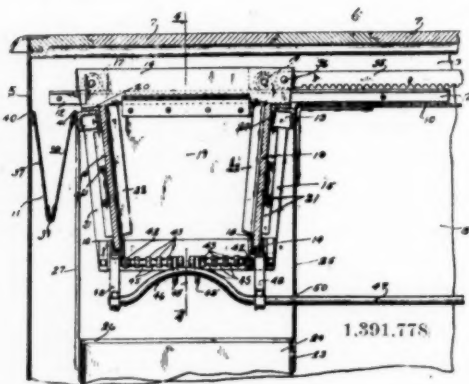
S. V. Dunkel, Cost Adviser of the Western Central Association, led the discussion and explained several new forms which he had prepared.

The committee appointed by the Midland Club in reference to a formula for rating the capacity (not the efficiency) of warm air furnaces reported progress and will make definite recommendations at the next meeting of the Club.

J. T. Templeton, President of the Western Central Association, and J. M. Triggs, President of the Midland Club, divided the honors of presiding.

United States Patent Rights Are Granted for Stove.

Under number 1,391,778, United States patent rights have been granted to Frank Kessler, Sr., Milwaukee, Wisconsin, for the stove or range described and illustrated herewith:



A stove comprising an inclosing frame having a top heat compartment and a firebox chamber, a firebox movably mounted within said chamber, and means preventing the communication of the heat compartment

with the top of the firebox chamber irrespective of the position of said firebox.

Gets Trade-Mark Registered in Patent Office.

Under number 148,099, United States Patent Office registration has been granted to Vaughan and Bush-



nell Manufacturing Company, Chicago, Illinois, for the trade-mark depicted herewith. The particular description of goods to which it applies is ratchet braces, non-ratchet braces, breast drills, hammers, hatchets, axes, etc.

Application for registration was filed May 23, 1921, and the Company claims use of this trade-mark since 1913.

New Officers Elected for Hardware Club of Chicago.

At the annual meeting of the Board of Governors of the Hardware Club of Chicago, the following were elected to serve as officers for 1922:

President—A. Vere Martin, re-elected.

Vice-President—William S. Kennedy, of Hibbard, Spencer, Bartlett & Company.

Treasurer—Arthur Lussky, of Lussky, White & Coolidge.

Secretary—A. G. Pedersen, Editor of AMERICAN ARTISAN AND HARDWARE RECORD.

The financial and other features of the management were carefully considered and the retiring officers, especially Henry Squibbs, former Vice-President, were complimented highly on having brought the Hardware Club through a very trying period in such excellent manner.

Plans were discussed for making the facilities of the Club of still greater service to the members and announcements will be made shortly as to some of the features that will be added.

Trade-Mark Is Registered for Stove Pipe and Elbows.

Hemp and Company, St. Louis, Missouri, have obtained United States Patent Office registration under

CAN'T SLIP
147,221

number 147,221, for the trade-mark shown herewith. The particular description of goods to which it applies is stove pipe and stove pipe elbows. Application for registration was filed December 19, 1919, and the Company claims the use of this trade-mark since 1899.

Trade-Mark Is Registered for Tool Chests.

Under number 138,792, the Union Tool Chest Company, Rochester, New York, has secured United States



138,792.

Patent Office registration for the trade-mark reproduced herewith.

The particular description of goods to which it applies is tool chests. Application for registration was filed October 25, 1920, and the Company claims use of this trade-mark since 1908.

Trade Opportunities in Foreign Lands.

The Bureau of Foreign and Domestic Commerce through its Special Agents, Consular Officers and Commercial Attachés, is receiving information of opportunities to sell hardware and kindred lines in several foreign countries. Names and locations will be supplied on request to the Bureau in Washington or its District Offices. Such requests should be made on separate sheets for each opportunity, stating the number as given herewith:

257.—A manufacturing company in Mesopotamia desires to secure the representation of manufacturers of copper and brass sheets. References.

259.—A firm of importers in India desires to purchase and secure an agency for the sale of hardware. Quotations.

263.—A firm of shipping agents in South Africa desires to secure the agency for the sale of American goods in that country.

281.—A mercantile firm in Japan desires to secure an agency for the sale of all merchandise which will find a ready market in that country. Correspondence with manufacturers, producers and suppliers is sought. Reference.

Coming Conventions.

Sheet Metal Products Association, Congress Hotel, Chicago, Illinois, December 8 and 9, 1921. D. C. Jones, Secretary, P. O. Box 769, Chicago, Illinois.

The Western Retail Implement, Vehicle and Hardware Association, Kansas City, Missouri, January 17, 18, 19, 1922. Exhibition at Convention Hall in charge of Louis W. Shouse. Headquarters, Coates House. Sessions in Century Theatre. H. J. Hodge, Secretary, Abilene, Kansas.

Pacific Northwest Hardware and Implement Association Convention, Davenport Hotel, Spokane, Washington, January 17, 18, 19, 20, 1922. E. E. Lucas, Secretary, Hutton Building, Spokane, Washington.

Mountain States Hardware and Implement Dealers' Association, Denver, Colorado, January 24, 25 and 26, 1922. W. M. McAllister, Boulder, Colorado.

Texas Retail Hardware Association, Adolphus Hotel, Dallas, Texas, January 24, 25 and 26, 1922. A. M. Cox, Secretary, 1808 Main Street, Dallas, Texas.

Oregon Retail Hardware and Implement Dealers' Association Convention, Imperial Hotel, Portland, January 24, 25, 26, 27, 1922. E. E. Lucas, Secretary, Hutton Building, Spokane, Washington.

Kentucky Hardware and Implement Association, Jefferson County Armory, Louisville, Kentucky, January 24, 25, 26, and 27, 1922. J. M. Stone, Secretary-Treasurer, Sturgis, Kentucky.

Indiana Retail Hardware Association, Convention and Exhibition, Athenaeum Hall, Indianapolis, January 24, 25, 26, 27, 1922. G. F. Sheely, Secretary, Argos.

West Virginia Hardware Association Convention and Exhibition, Wheeling, January 31, February 1, 2, 1922. James A. Carson, Secretary, 1001 Schwind Building, Dayton, Ohio.

Iowa Retail Hardware Association Convention and Exhibition, Coliseum, Des Moines, Iowa, February 21, 22, 23, and 24, 1922. A. R. Sale, Secretary-Treasurer, Mason City, Iowa.

Nebraska Retail Hardware Association Convention, Lincoln, January 31 and February 1, 2, and 3, 1922. George H. Dietz, Secretary, 414-417 Little Building, Lincoln, Nebraska.

Michigan Retail Hardware Association Convention and Exhibition, Grand Rapids, Michigan, February 7, 8, 9 and 10, 1922. Karl S. Judson, Exhibit Manager, 248 Morris Ave-

nue, Grand Rapids, Michigan. A. J. Scott, Secretary, Marine City, Michigan.

Oklahoma Hardware and Implement Association Convention and Exhibition, City Auditorium, Oklahoma City, Oklahoma, February 7, 8, 9, and 10, 1922. W. B. Porch, Secretary-treasurer, Oklahoma City.

Wisconsin Retail Hardware Association Convention and Exhibition, Milwaukee, February 8, 9, 10, 1922. P. J. Jacobs, Secretary, Stevens Point, Wisconsin.

Pennsylvania and Atlantic Seaboard Hardware Association, Inc., Convention and Exhibition, Philadelphia Commercial Museum, Philadelphia, February 13, 14, 15, 16, 17, 1922. Sharon E. Jones, Secretary, 1314 Fulton Building, Pittsburgh.

California Retail Hardware and Implement Association, San Francisco, California, February 14, 15 and 16, 1922. Le Roy Smith, Secretary, 1112 Market Street, San Francisco, California.

Illinois Retail Hardware Association Convention, Hotel Sherman, Chicago, February 14, 15, 16, 1922. Leon D. Nish, Secretary, Elgin, Illinois.

Minnesota Retail Hardware Association Convention, St. Paul, February 14, 15, 16, 17, 1922. H. O. Roberts, Secretary, 1030 Metropolitan Life Building, Minneapolis, Minnesota.

Ohio, Hardware Association Convention and Exhibition, Columbus, February 14, 15, 16, 17, 1922. Headquarters, Deshler Hotel. Exhibition, Memorial Hall. James B. Carson, Secretary, 1001 Schwind Building, Dayton, Ohio.

Michigan Sheet Metal Contractors' Association, Jackson, Michigan, February 21, 22 and 23, 1922. Frank E. Ederle, Secretary, 1121 Franklin Street, S. E., Grand Rapids, Michigan.

Missouri Retail Hardware Association Convention and Exhibition, St. Louis, Planters Hotel, February 21, 22, 23, 1922. F. X. Becherer, Secretary, 5106 North Broadway, St. Louis, Missouri.

New England Hardware Dealers' Association Convention and Exhibition, Paul Revere Hall, Mechanics' Building, Boston, Massachusetts, February 21, 22, 23, 1922. George A. Fiel, Secretary, 10 High Street, Boston.

Virginia Retail Hardware Association, Roanoke, Virginia, February 21, 22, and 23, 1922. Thomas B. Howell, Secretary, Richmond, Virginia.

South Dakota Retail Hardware Association Convention and Exhibition, Mitchell, South Dakota, February 21, 22, 23 and 24, 1922. H. O. Roberts, Secretary, 1030 Metropolitan Life Building, Minneapolis, Minnesota.

New York State Retail Hardware Association Convention and Exhibition, Rochester, February 21, 22, 23, 24, 1922. Exhibition at Exposition Park. Headquarters and sessions at Powers Hotel. J. B. Foley, Secretary, 412-413 City Bank Building, Syracuse, New York.

Southeastern Retail Hardware and Implement Association, Convention and Exhibit, May 9, 10, 11 and 12, 1922, Chattanooga, Tennessee. Walter Harlan, Secretary, 460 St. James Building, Jacksonville, Florida.

Hardware Association of the Carolinas Convention, Winston-Salem, North Carolina, May 17, 18, 19 and 20, 1922. T. W. Dixon, Secretary-Treasurer, Charlotte, North Carolina.

Sheet Metal Contractors' Association of Indiana, Indianapolis, Indiana, May 15, 1922. Ralph R. Reeder, Secretary, 312 East Sixteenth Street, Indianapolis, Indiana.

National Association of Sheet Metal Contractors Convention and Exhibition in the Athenaeum, Indianapolis, Indiana, May 16, 17, 18, and 19, 1922. Edwin L. Seabrook, Secretary, 608 Chestnut Street, Philadelphia, Pennsylvania.

Retail Hardware Doings.

Illinois.

John Butterworth of Poplar Grove has purchased a hardware store in Oregon.

D. W. Schwarz of St. Louis has leased the Snedeker Building on North State Street, Jerseyville, and will open a hardware store some time this month.

Indiana.

The W. J. Bacon Hardware Store of Washington will occupy the room now occupied by Keller and Williams, as Mr. Bacon's rapidly increasing business requires a larger room.

Frank C. Waugh and Frank G. Thompson have purchased the Bluffton Hardware Company at Bluffton from Jarvis E. Hull and Milton E. Emerson.

Pete Lintzenich of Evansville will open a hardware store in the building formerly occupied by Schenk Brothers and Koressel on West Franklin Street.

Pater and Johnson have purchased the old Rohsenberger-Klein hardware store at 1006 West Franklin Street, Evansville.

Ohio.

W. J. Lehner, hardware dealer at 278 South Fourth Street, Columbus, has taken Frank Butts into business as an equal partner. The firm will be known as the Lehner-Butts Hardware and Supply Company.

Advertising Help and Comment

Send Us Copies of Your Advertisements. Let Us Help You Get Bigger Results by Advice and Suggestions. The Service Is Free. Don't Hesitate to Take Advantage of It.

There was a Wheat Show in Wichita, Kansas, when the advertisement of Steel Hardware Company, herewith shown, was published in the *Wichita Eagle*.

The presumption is that all retailers of that city who advertise included in their announcements at that time invitations to those who attended the Wheat Show to visit their stores.

Admittedly, this was a timely thing to do. It is good publicity

The advertisement then proceeds to mention percolators, cut glass, safety razors, alarm clocks, heating stoves, bathroom accessories, and other goods.

There are two ways of viewing this advertisement.

One is to consider it as a sort of sign post, telling the visitors where to go for household requirements.

The other way is to estimate the advantages accruing to the Steel Hardware Company from a gen-

Hardware Company.

For them, the advertisement is a form of information.

For those already familiar with the Steel Hardware Company, its location and its facilities, the advertisement is not effective enough in stirring the desire to buy.

There are no descriptions, no articles featured by name and selling reasons.

These comments on the advertisement naturally are open to the answer that it was not the purpose of the Steel Hardware Company to make a definite selling appeal in this particular advertisement, but that it merely wished to convey the broad information that the store was thoroughly able to serve the people in matters of household requirements.

* * *

Get the Right Idea About Advertising.

There are a lot of merchants in the retail business who seem to imagine that when they go to the local newspaper and sign an agreement which for a stated sum gives them so much space in certain stated publications for a stated period, they advertise.

They seem to think that an advertising contract is something in the nature of an insurance policy which gives service so long as the premiums are paid; that if they pay their monthly bills and hang on to the contract they are doing their duty by the business.

It has been so often said and proved that advertising pays that they know it must; therefore, if they spend money for publicity they must be getting the benefit.

Signing a contract is a good start in advertising—that is, if it is a contract based upon careful consideration of essentials.

But it will do your business no more good than a meal ticket will benefit the human system if you do not eat regularly.

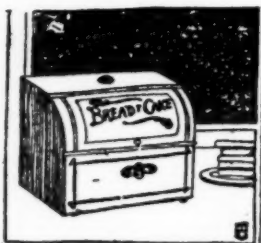
EVERY HOUSEHOLD NEED SUPPLIED BY THE STEEL HARDWARE !

To those visiting the Wheat Show, come to our store, and see the many items you will have to choose from for every household need.

ELECTRIC PERCOLATORS
ELECTRIC COFFEE URNS



TABLE PERCOLATORS
STOVE PERCOLATORS
FANCY CUT GLASS
SNOW WHITE COOKING WARE
ALUMINUM COOKING WARE
PARING KNIVES
BUTCHER-KNIVES
SILVERWARE IN SETS
SAFETY RAZORS
SHAVING BRUSHES



SHAVING STROPS
POCKET KNIVES
ELECTRIC BREAD TOASTER
VACUUM BOTTLES
ALARM CLOCKS
MANICURING SETS
BATH ROOM ACCESSORIES
CAST-HOLLOW WARE
HEATING STOVES

So many items that we cannot mention in this ad.

STEEL HARDWARE CO.

126 North Main—
Market 2483
Market 2484

QUALITY HARDWARE
"The Store for Everybody."

Branch—
3110 East Douglas
Market 6226

to connect one's advertising with current events in one's locality.

The Steel Hardware Company invites those visiting the Wheat Show to come to its store and see many articles from which choice may be made for every household need.

The title lines of the advertisement are clear and unmistakable.

They emphasize the thought of every household need being supplied by the Steel Hardware Company.

eral announcement of this sort in which no particular brands are featured and no prices mentioned.

As an announcement of Steel Hardware Company's equipment and readiness to supply every household need, the advertisement performs a definite, though limited, function.

It is easy to conceive that many of the visitors to the Wheat Show were not acquainted with the name, location, and facilities of the Steel

Gives Instructive Analysis of the Relative Costs of Different Methods of Installing Warm Air Heaters.

Heating Engineer Shows Consequences of Shortsighted Economies of Installation in Their Effect upon Comfort and Happiness.

Much has been written on the theoretical and technical side of warm air heating.

A phase of the matter which does not receive frequent treatment is that of relative costs of different methods of installing warm air furnaces.

It is worth while, therefore, to reproduce the excellent article on this subject which appears in the October issue of the Journal of American Society of Heating and Ventilating Engineers.

The article was originally presented as a paper at a meeting of the Kansas City Chapter of the American Society of Heating and Ventilating Engineers by L. W. Millis of Kansas City, Missouri. It is as follows:

Planning modern equipment at minimum cost sounds easy and everyone has probably had experience in it. One will, no doubt, claim that he plans the modern part and that the "other fellow" attends to the minimum cost. I am not, however, convinced that this is true in the modern heating equipment supplied in residences. I am much more familiar with warm air details than I am with hot water and steam, but I know enough about the latter to be certain that every person engaged in residence work, can parallel in either water or steam the things I shall try to cover by using warm air as an illustration.

In order to establish a common starting point to define modern heating I recognize the fact that in the larger towns most building is done by Realtors. Their interest in the heating equipment of such houses is nearer that of the user than some of the earlier builders who only wanted to know the installer's price and the finish on the registers. These Realtors build houses fit for any luxury lover to live in and low enough in cost for a high-grade mechanic to own.

I intend to assume proper size and proportion of the heating plant, and give especial attention to the final minimum cost. A very simple house will serve the purpose. Assuming that a Realtor is building three of them, each having the same heat requirements, and that the architect's plans call for a furnace just about large enough, a 12 inch run to the parlor, 10 inches to the dining room, 9 inches to largest bedroom, and 8 inches to the other four rooms. This makes a total outgo from the furnace of 453 square inches of pipe area. He also plans to take the air supply from one of the rooms under windows through an oak grill 20x50 inches, connected to the furnace with a galvanized pipe 24 inches in diameter; its area is practically 453 square inches. One will admit that the architect has planned a good heating equipment for a house sold under competitive conditions.

The Realtor has three different bids, and decides to give a contract to each of the three, A, B, and C, thus giving us an opportunity to follow the plans further.

A cases his furnace as shown by the solid lines in Figure 1.



Figure 1. Showing Three Different Ways of Casing the Warm Air Furnace.

Notice that the top of the casing is so low that the air can not get into the pipe from the top, nor can it fill the pipe from the sides. About 80 per cent of the pipe area gets into the pipe. By this method he allows 362 square inches of air to pass into the pipes (453 square inches x 80 per cent—362 square inches). B and C use a canopy, as shown by the dotted lines in Figure 1, high enough to allow the full amount, 453 square inches, to reach the pipes. By his method of construction, A saves \$1.50 in material and labor.

A also uses registers and register boxes that have narrow throats, as shown in Figure 2, and also flattens

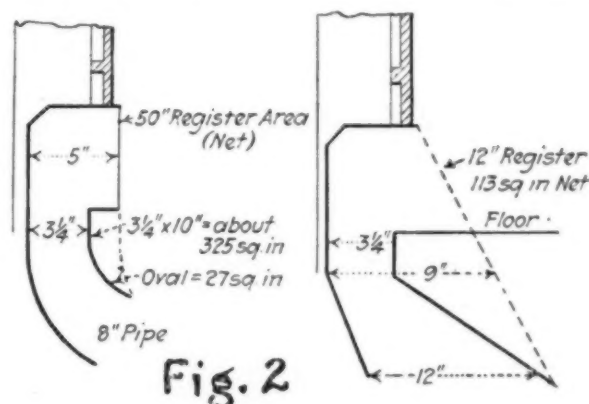


Figure 2. Showing Register Boxes With Narrow Throats.

or ovals the round warm-air pipe and pushes it into the already restricted register box bottom.

The studding is $3\frac{3}{4}$ inches wide. A could have utilized the space occupied by plaster and baseboard, but did not; he utilized only $3\frac{3}{4}$ inches instead of 5 inches in the small register and $9\frac{1}{2}$ inches in the 12 inch register.

A delivers 210 square inches to register and saves \$4.63 on fittings and \$1.50 on registers.

B uses narrow throats, but uses properly shaped connections instead of ovals. He also buys a register for the 12 inch pipe of proper catalog dimensions except that the throat has less area than the 12 inch pipe. He delivers 267 square inches and saves \$1.50 in fittings and \$0.75 on register.

C uses a full size connection in every case. With the 12 inch pipe he uses a register that projects about

4 $\frac{3}{4}$ inches out into the floor, and passes 113 square inches to this register. His total delivery through register is 453 square inches.

The air supply as planned is through an oak grill 20 inches by 50 inches under dining room windows.

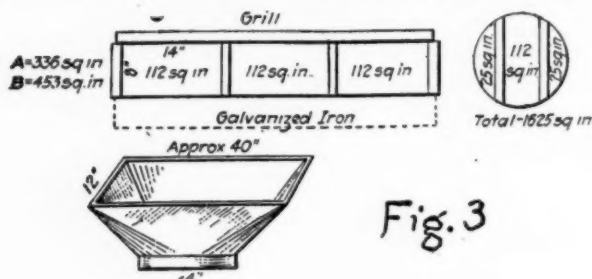


Figure 3. Showing Duct Connections.

The floor joists are 14 inches apart and 8 inches deep. The grill is 50 inches long, so three spaces 8 inches by 14 inches are available for use as a return. A nails galvanized iron on the bottom of the joists and uses a 24 inch round duct (area 453 square inches), connecting it directly into the galvanized iron bottom of the grill as shown in the sketches in Figure 3. B, however, builds a pan down 3 inches below the joists and allows 453 square inches to pass to the 24 inch duct, but he connects the 24 inch pipe directly into the bottom of the pan.

As air flows into a duct like water over a dam, he

TABLE 1. RELATIVE COSTS OF DIFFERENT METHODS OF INSTALLATION.

A		B		C	
Sq. In.	Saved	Sq. In.	Saved	Sq. In.	Saved
362	\$1.50	453	.....	453	.....
210	1.50	267	\$1.50	453	.....
	4.63		.75		.....
162	4.00	272	2.00	453	.....
162	4.25	...	2.50	...	.....
162	\$15.88	267	\$6.75	453	.....
Base		Bid		Price Value Per	
A—\$275.00		\$233.21		at \$.667	
Less		Sq. In. Del.		Sq. In.	
\$15.88		162		\$1.42	
25.91					
B—275.00		268.25		1.04	
Less		267		178.09	
6.75					
C—275.00		302.50		.667	
+27.50				302.50	
C—\$302.50 plus 7 tons @ \$12.00		\$84.00		\$386.50	
A—\$233.21 plus 15 tons @ \$12.00		\$180.00		\$413.21	

adds only 110 square inches of air actually flowing into the duct, or a total of 272 square inches.

C does one of three things. He builds a pan 6 inches deep instead of three inches under the joists or if head room is important he makes the pan 3 inches deep as B did, but at the end near the furnace, he builds a portion of the pan 6 inches or 8 inches deep so the full volume of air passes into the 24 inch pipe; or else he makes an oblong transition piece that reaches across most of the 48 inch pan and terminates in the 24 inch pipe. He gets 453 square inches of air into the duct. A saves \$4.00; B saves \$2.00.

It is still necessary, however, to pass the air on into the furnace casing. A extended his pan to a point near the furnace and dropped down alongside of and close to the furnace, as shown in Figure 4.

The basement is 84 inches deep. He made the shoe at furnace 20 inches wide and 24 inches high, so that two joints of pipe each 30 inches long will reach to the pan and make up the required 84 inches. He saved \$4.25. B does the same except that he makes his shoe 24 inches wide and 20 inches high. He saved \$2.50.

The ash pit is 14 inches deep, so C made the shoe 14 inches high and 36 inches wide, and also started farther back and used elbows so that the flow of air is unaffected by the heat from the pot (see sketch in Figure 5). Note that C admits the air around the cool ash pit; whereas A and B admit much of the air against the hot pot. This results in decreasing the air flow as indicated by the arrows.

It is apparent that C has planned carefully and conscientiously to deliver into the rooms a very large portion of the heat created by the furnace, and possibly it is interesting to know how such planning compares in cost with the incompetent bungling done by A.

The things mentioned are in reality only a small portion of the things left undone by A, but we must overlook the balance and hurry on. We can not even discuss the vapor pan A saved by leaving out.

C finds that the market price of the labor and material on the job is \$275.00. C belongs to some sort of civic organization; he also belongs to a lodge or a church, and such things cost a little extra money. He

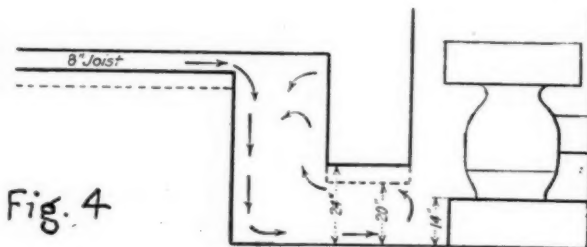


Fig. 4

Figure 4. Showing Air Intake of Furnace.

has determined that his son shall have more than a primary education, and that costs some money.

He has telephone and other bills, so he adds 10 per cent, or \$27.50, making his price \$302.50. He delivered the full 453 square inches of air. It may therefore be said that the cost of C's well-planned job is \$.667 per square inches of delivery; but we are not yet certain that this is the minimum cost. B saved

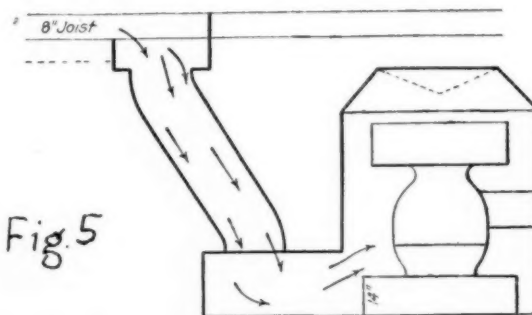


Fig. 5

Furnace 5. Another Method of Air Intake.

\$6.75 in material. He adds nothing for the future or for expenses, so his price is \$275.00 minus \$6.75, or \$268.25. He delivers 267 square inches of air, and the job costs \$1.04 per square inch. But 267 inches at \$.667, C's cost, would only equal \$178.09.

A saved \$15.88 (beside the water pan and other sundries) which should have made his cost \$259.12. But he has a boy who has quit the grade schools, a mighty good worker, and he does not have to pay a high priced man to do his work, so he deducts 10 per cent, making his price \$233.21. As he delivers 162 square

inches his price is \$1.42 per square inch, and at \$.667 per inch it is really worth \$108.05.

Note that the cheap A job cost at end of the first season \$26.71, the most; and will cost \$96.00 extra for many years.

I think this table shows us that the job that is planned best, following the assumption credited to the architect, is coupled with the minimum cost per square inch of actual delivery; that is to say, of actual performance.

Now allow me to follow up two of these jobs one heating season. An unlucky man bought the A house; a more fortunate man bought the C house at the same price as the first man paid.

The latter lived in a comfortably heated home using 7 tons of coal, while the unlucky owner was never really comfortable, although he burned 15 tons of coal. Our fortunate owner likes his town, he likes his house, and his Realtor; he respects his coal dealer and worships his heating plant.

Our unlucky owner regards everybody as a grafter; he hates his town, he abuses all "real estate houses." He reviles his coal dealer and curses his furnace, although it is a duplicate of the furnace in our fortunate owner's house. I indicated earlier that every error A accomplished could be duplicated in either water or steam. If our unlucky owner had a home containing a hot water plant of the same quality his troubles would be of the same nature.

He who properly warms and humidifies a home enlarges the sphere in which correct American principles may be inculcated—in which art, music, literature and the human affections and resulting obligations may grow—in a word: Where Christian civilization may prosper.

I have added this just to be certain that our equipment justifies the adjective "modern" in its best sense. No home is truly an American home unless it provides comfortable conditions where the younger members love to spend much of their time. Modern equipment at minimum cost is therefore essential in modern life.

Front Rank Plant Badly Damaged By Fire, But Orders Can Be Filled.

A fire, the origin of which has not yet been discovered, destroyed almost completely the main building of the plant of Haynes-Langenberg Manufacturing Company, makers of "Front Rank" warm air furnaces and fittings, at 4045-4057 Forest Park Avenue, Saint Louis, Missouri, on Monday, November 5th.

By this time, however, the Company is in position to fill all orders. Temporary quarters have been established in some of the smaller buildings and the warm air pipe and tin shops are in operation. Unfilled orders on hand at the time of the fire are being handled by another manufacturer who very kindly volunteered to give their customers immediate service.

"Front Rank" warm air furnaces will for the present be shipped from the branch houses at Pittsburgh, Pennsylvania, Indianapolis and Auburn, Indiana, Des Moines, Iowa; Lincoln, Nebraska; San Francisco, California, and Seattle, Washington.

AMERICAN ARTISAN AND HARDWARE RECORD is certain that their many friends and customers will sympathize with them in this great loss and that they will bear with the Company in any little inconvenience which may be encountered because of the fire.

Everett B. Langenberg, Secretary-Treasurer of the Company, states in a letter to this office that as soon as the machinery, which fortunately was damaged very little, can be removed and installed in another building the manufacture of "Front Rank" steel warm air furnaces will be resumed, and that prompt shipments can now be made of their popular "Rainbow" all cast furnace.

Issues Convenient Dealers' Price List of Repairs.

A model of clearness, convenience and time-saving helpfulness, is the new dealers' price list of repairs of "Moncrief" warm air furnaces, issued by the Henry Furnace and Foundry Company, Cleveland, Ohio.

Before ordering repairs, the dealer is counseled to refer to the illustrations in the opening pages of this price list.

Every part of the "Moncrief" warm air furnaces is shown from the largest single piece to the smallest grate bar bolt for new style bars. Each illustration is clearly numbered.

The price list of repairs begins with piece number 1 and ends with piece number 85 and gives the name of the part and the price corresponding to the various forms of pipe, pipeless and Florida series of warm air heaters, made by the Henry Furnace and Foundry Company.

It is very easy to find in the list of illustrations the repair part desired, and then by noting the number, to find the name and exact list price.

This method of arrangement is deserving of much praise and is certain to be greatly appreciated by warm air heater dealers and installers.

Gets Trade-Marks Registered in Patent Office.

THE KELSEY
146,491.
WARM AIR GENERATOR

Under numbers 146,491 and 146,492, United States patent office registration has been granted to the Kelsey Heating Company, Syracuse, New York, for the trade-marks reproduced herewith. The particular description of goods to which they apply is warm air furnaces. Application was filed May 20, 1921, and the Company claims the use of these trade-marks

since 1901.

Finds AMERICAN ARTISAN Very Useful Every Day.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

I find your magazine very useful every day in my work. It helps me in the problems which come up.

U. R. SWOB.

—, Iowa, November 5, 1921.

Practical Helps for Tinsmiths

No Two Jobs Are Exactly Alike. Therefore, the Sheet Metal Worker Has to Meet Each Difficulty as It Comes. Send Your Problems to Us. Let Our Experts Help You.

PATTERNS FOR BALUSTRADE RAILING.

By O. W. Kothe, Principal St. Louis Technical Institute, St. Louis, Missouri. Written especially for American Artisan and Hardware Record.

Now and then an architect designs balustrades on apartment houses, club buildings and the like, and it is of interest to note the design and the method of construction.

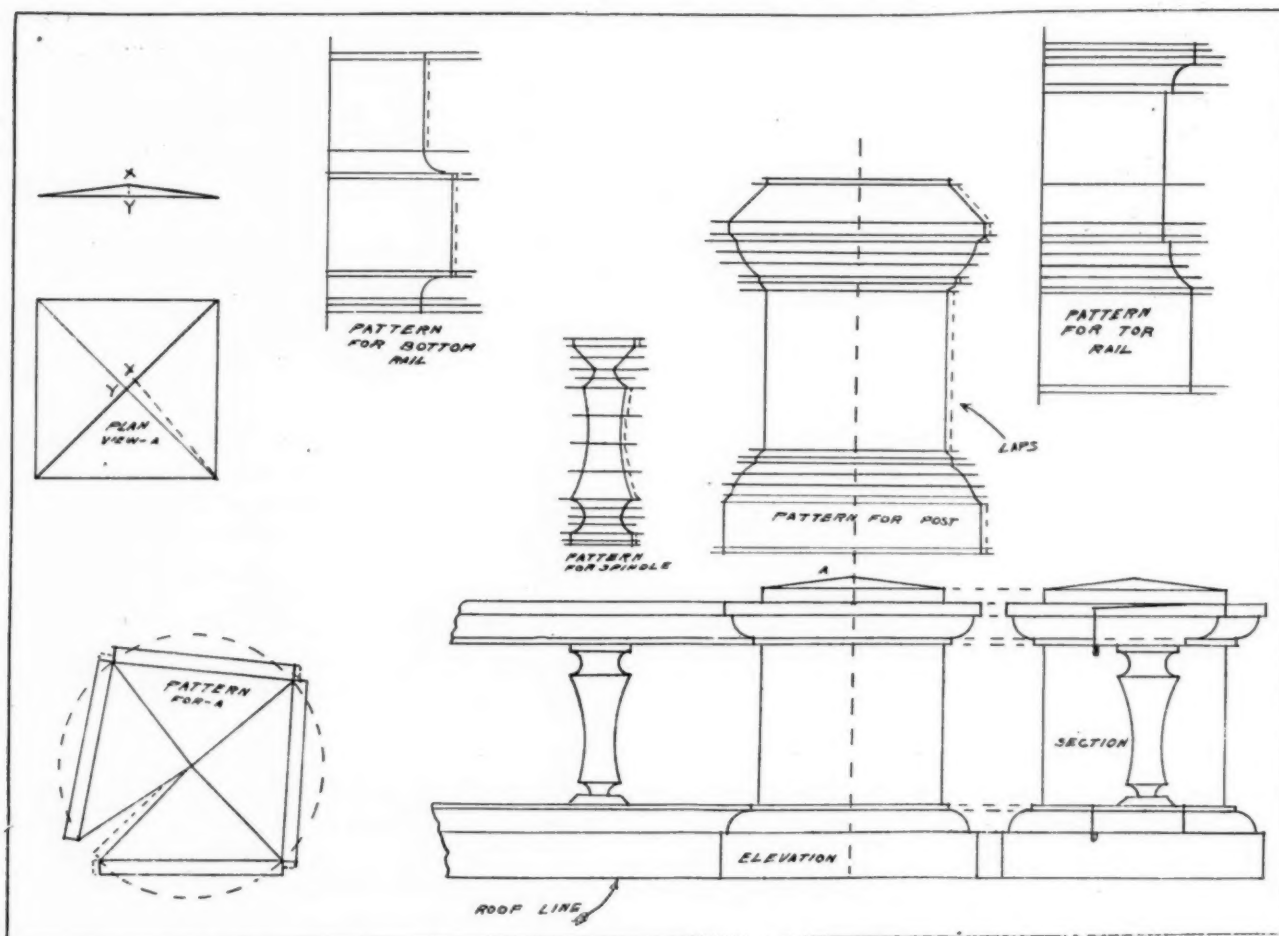
The main feature here is the design of balustrade which is made in 4 pieces with right angle corners.

square miter pipe as shown for the pattern for top rail, also the pattern for the posts, and the pattern for spindle, also the pattern for bottom rail.

On the top of post a pitch cover is set made equal in size to the plan and rise to the elevation at the left of drawing. We pick the slant lines shown dotted in plan as the radius for describing the arc in pattern.

Observe this gives us the rise as X-Y, which is the same as that in the elevation above plan.

When the arc is described pick the side lines of plan and step off 4 of these sides.



Patterns for Balustrade Railing.

Observe the design of corner post and from the sectional detail notice how the railing is designed and edge so as to form a drip on the bottom side on the roof.

The railing is made in a continuous length and planted against the posts and the balustrades are set in at intervals and soldered securely.

Sometimes angle or channel iron structural work is run along for the sheet metal to enclose, thus making the balustrades more rigid, and not so liable to be deformed by abuse from painters' ladders and the like.

All patterns required are very simple, being of the

Then draw lines to the corners, thereby cutting off the segments of the arc, also draw hip lines and allow turn down edge and laps for soldering and the pattern for top is finished.

Hardware Company Shortens Its Corporate Name.

The directors of the Bemis & Call Hardware & Tool Company, Springfield, Massachusetts, have changed the name of the concern to the Bemis & Call Company.

Also they have voted to increase capital stock from \$26,400 to \$500,000.

Hula Hula Dancer Is Not Necessary to Draw Members To the Regular Meetings of the Sheet Metal Local.

Right in Your Own City There Are Dozens of Professional Men and Experts Who Would Gladly Help You Get Full Attendance.

Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by J. C. Greenberg, Cleveland, Ohio.

Henry Johnson was elected secretary of the association and was not having any luck with members attending to meetings. Many times there were not enough members present to have a quorum. So when I entered his shop, he had the blues badly.

"What can I do to get them up to the meetings? If they do not come they blame me for it. If they do come up, I get no credit for it. If I ask them for their dues, they ask me what do they get for their money. If I do not get the money, I am a rotten secretary. If there is a bill to pay for postage, they say I am extravagant, and if I do not send out letters for the meetings, they say I am lazy. If I ask them personally to attend meetings, they say what's the use, and if I do not ask them, they kick. I'm just in a heck of a fix. So I ask you, what's the answer?"

"The answer is, that all of you are right and wrong. Personally I believe that if you make your meetings interesting enough, they will be glad to attend," I replied.

"Make the meetings interesting!" Henry exclaimed. "If nothing interesting happens, how can you make them interesting? We can not have a hula hula dancer up there to amuse them, and feeds are too expensive."

"You are wrong, Henry."

I explained. "You as secretary can have plenty of interest at the meetings if you only use your noodle. For instance, AMERICAN ARTISAN AND HARDWARE RECORD has some very good articles to read and discuss. There are the Kothe articles which in themselves are of great importance to the trade. If you would put these on a blackboard and discuss them it would be interesting. There are also other articles that could be discussed with interest and benefit."

"Well," Henry said, "maybe so, I have never thought of that."

"Then," I added, "there is such a thing as going to your banker and saying that your association meets on such a night, and that they request him to come up and tell them all about using a bank in business. He being a business man, will gladly come up and tell the members how to use a bank and discount bills."

"The banker is not so exclusive a personage as some imagine," I declared.

Henry just smiled.

"Then," I went on, "there is your prosecuting attorney, or some other good lawyer, who could be invited to speak to your association about your rights and privileges as business men in the eyes of the law, your collections and your own debts. This would be interesting to the members."

Henry's smile broadened into a grin.

"Then," I continued, "there is the chief of your health department who would be glad to talk to you on the sanitary relations of well-heated and well-roofed houses. This man would be glad to come up if you ask him to."

Henry laughed.

"Then," I kept on, "there is your fire marshal who would be glad to tell you of the latest ideas in fire prevention. You all need this knowledge and he would be glad to give information if asked to do so."

"Wait till I get a pencil and make notes of this," Henry exclaimed excitedly.

"Then," I continued, "go to your city council and invite your councilmen to tell you which is better to keep rubbish in—an apple barrel

or a metal can? Have him address your meeting and tell you the laws on this point, and get them enforced. If there is no law, get one passed."

"Keep right on," Henry said enthusiastically, "I am getting all your dope down."

"Go to your business college," I insisted, "and get the president to tell your members the value of knowledge of bookkeeping and a typewritten letter. He will be glad to come if you ask him."

Henry was all excited.

"Then," I added, "go to the president of the Rotary Club and ask him to come or send somebody to tell your members all about Service. Their motto is 'He Who Serves Best Profits Most.' He will gladly do this for you if you ask him."

"By golly, I believe I am a rotten secretary after all. Here is interest right in this old town of mine and I

The percentage of members of any organization who attend its meetings depends almost entirely upon the interesting qualities of the proceedings of such reunions.

If the greater part of the meeting is taken up with dry parliamentary details and dull routine reports of committees, the members lose their enthusiasm for the work of the organization and gradually cease attending the meetings.

Experience shows that the main reason for poor attendance at meetings is the amount of time wasted upon unimportant details.

Greenberg shows how every meeting can be made attractive and how local secretaries can keep up the enthusiasm of the members and, therefore, render the organization continuously useful in its field.

never thought of it. I am in midlake and asking for a drink. I guess I am a dumbbell all right." This Henry admitted gladly.

"Well," I said consolingly, "you are not a dumbbell; you simply did not use your noodle as secretary, and I guess you deserved all the criticism you have received. As it is, all you fellows do at a meeting is to read the minutes, rip some member up the back, hang a few competitors, and murder several jobbers, and adjourn so the kitty can be fed for an hour or two. Get a hump on the interest stuff and you will see that your meetings will be well attended and learning will be aplenty."

Henry saw the truth of my arguments, and promised to follow out along this line.

Henry is not alone with this problem. There are many associations that suffer for the want of interesting doings at meetings and do not get them.

Who wants to leave his wife for an evening, or miss a show for a rag chewing match? Would you? I guess not. Make things interesting and educating, and everybody will come up.

Just try it and see for yourself.

It is getting cooler now, and the attendance should be increased to a great extent if this idea will be carried out.

The life of an association depends on what work it has to do. If there is nothing interesting, there is no use coming. If there is real wholesome interest, every member will be glad to come and make the meetings a success.

Detroit Sheet Metal Contractors Start Winter Meetings with Banquet Nov. 14th.

The Detroit, Michigan, Sheet Metal Contractors' Association will start their winter season of meetings with a banquet and entertainment at the Board of Commerce, on Monday evening, November 14th.

Many important subjects will be discussed during the business session of this affair, chief of which will be the advisability of maintaining a permanent secretary with an office in the room of the Associated Building Employers of Detroit.

The committee in charge of this meeting consists of Otto Schwartz, Robert Candler and Walter "Galvanized" Sheets.

Likes the Various Features of AMERICAN ARTISAN.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Since April, 1892, I have been a reader of your magazine and have gained more valuable information from it than from any other published source. Your comments on advertising is one thing that appeals to me. Also, another feature that I like is your Want Ad columns. I have several times taken advantage of them myself. I enjoy reading them every issue. They tell me in what section of the country the good business is.

Yours truly,

S. K. FELSER,

—, Texas, November 3, 1921.

Zinc Is Economical Because of Great Lasting Qualities.

In a series of very attractive booklets published by the New Jersey Zinc Company, the sheet metal contractor has pointed out to him many important facts which he can use to advantage when it comes to the matter of advising a prospective customer as to the material which the latter should use for gutters, flushings, ridge rolls, valleys and architectural trim.

One of the important points which is emphasized by a chart in colors is that of the high lasting quality of zinc. It is stated that even though a zinc gutter may cost nearly twice as much for the material alone, and even though the cost of erection of a zinc gutter may be about 25 per cent higher than for a galvanized job, and even though the completed zinc job may cost somewhat more than fifty per cent as much again as the galvanized gutter, within five years, the latter will have to be replaced, thus making the cost for five years about one-quarter more than the zinc gutter which does not need any repairing or replacing, and in ten years the zinc gutter cost will be only about half that of the galvanized gutter.

Zinc is practically indestructible. It does not need painting to make it last longer, but it can be painted so as to fit into any color scheme. Another point which is worthy of note is that zinc does not stain, so that it may be used in its natural color, without or with paint, on buildings which would be discolored by drippings from spouts, gutters, rolls or other trims of any other metal.

Sheet metal contractors or hardware dealers who wish to learn more about this very serviceable material may write to the New Jersey Zinc Company, 160 Front Street, New York City.

Offers New Method of Attaching Nameplates to Machinery.

Manufacturers have long sought an easy, inexpensive method of permanently attaching nameplates, trade-marks, etc., to their products.

Such fastenings are very easily made by means of the new "drive screw" here illustrated, which has a thread of very steep pitch and a slotless head.



New Parker
"Drive
Screw."

To insert these screws, holes are drilled of a size a trifle larger than the cylindrical point, or pilot, and the screws are driven in with a hammer—the entire screw being hardened and heat treated, the steep pitch threads easily cut their way into gray iron or any softer metal.

Since their heads are not slotted, these screws can not be removed except by cutting off, thus making it difficult to substitute another nameplate for the one originally fastened to the machine. They are manufactured by the Parker Supply Company, Incorporated, 801 East 135th street, New York City.

The store that shows a proper appreciation of its customers' small orders is the store that is likely to get their large orders.

The Tendency in Automobile Radiator Building Now Is to Combine Several Tubes Into One Section.

These Sections of Core Are Easily Replaced. Sawing or Chiseling the Tubes Through Close to the Headsheets Loosens Whole Section.

Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by E. E. Zideck, New York City.

EIGHTH ARTICLE.

The tubular core patterns in which each tube has its own fin housing, having proved too easily loosened in the headsheets, the trend in radiator building now is to combine several tubes into one section.

Individual fin plates discussed in the previous installment have been extended to reach clear to the back of the core. Each plate is perforated with as many tube holes as there are tubes in the depth of the core. And the number of these extended plates, spaced $3/16$ inch apart, house all the tubes that there are in a depth row.

The illustration Number 1 shows six tubes housed in individual fin plates. The plates are punched for holes leaving a burr on them, and the tubes are solder-

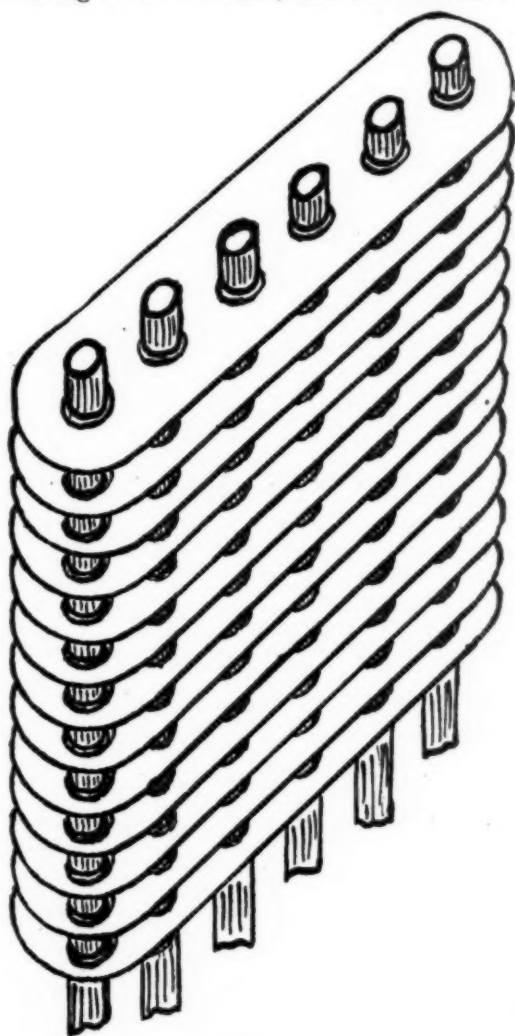


Figure 1.

baked to these burrs. There can be no leak in or around these joints except the tube itself leaks.

Each of the sections of core, formed of a depth-row of tubes housed in fin plates each of which holds all the tubes that there are in the depth-row, is made to stand by itself in the core.

In other words, there is no connection between the number of sections that constitute the core.

Just as the single tube patterns, these sections are held together solely by the headsheets, or, the bottom of the upper tank and the top of the lower tank.

But they are less likely to suffer from vibration and leak, because the number of tubes, strongly fastened to the numerous fin plates, make up a strong structure which rests in the headsheets by numerous joints instead of but by one.

Still, these tubular patterns being in use mostly on trucks and cars subjected to hard work, the repairer will find that, barring external injury to tubing from collisions, etc., or internal injury from frost, the use of preparations, etc., the only leaks in this kind of core will be around the tubes where they enter the headsheets.

Illustration 2 shows how the several sections of the core are fastened in the radiator, solely by the tubes entering through the headsheets and holding therein by burr and solder. It is evident that, where the radiator is subjected to much up-and-down jolts, for

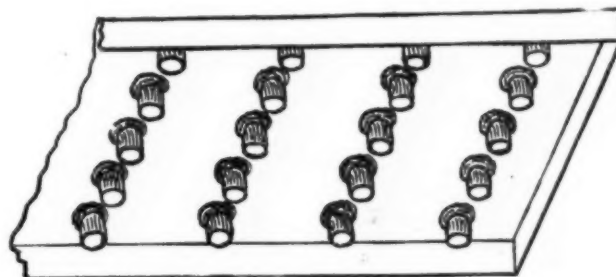


Figure 2.

instance when traveling over rough roads, the strain is reacting on the tube-and-headsheet joints in such way as to tear out the tubes.

These sections of core are easily replaced. They hold to the headsheets only. Sawing or chiseling the tubes through close to the headsheets loosens the whole section.

The torch flame directed carefully to melt out the stubs will re-tin the metal for ready soldering-in of a new section.

Further on in these articles the ways of dealing with each case of repair are minutely described. But be it said right here that the only way of making these new sections hold tight is by inserting pieces of brass or copper over the ends, with tubes protruding, and soldering them to the headsheets.

Just as the single tube patterns have rounded, square and other shape fins, so the extended fin sections are of various designs. The one has rounded up ends; the other is square and has but the corners cut off or rounded, etc., etc.

The shape of the fins does in no way change the construction of the section or of the core. The above description fits every one of them.

Dealing with these makes of tubular fin cores, the repairer needs to remember but one thing: except the tube is leaking from some cause easily seen or found out, the leaks invariably will be in the headsheets where the tubes enter. These leaks, if just soldered, will reappear.

It is the strain upon the comparatively weak hold of the tubes in the headsheets which is the fault. It is a fault of construction, not of repair, if this kind of core leaks oftener than the owner likes.

Once the tubes have been loosened in their hold in the headsheet it is an indication that they were not very tight within the burr.

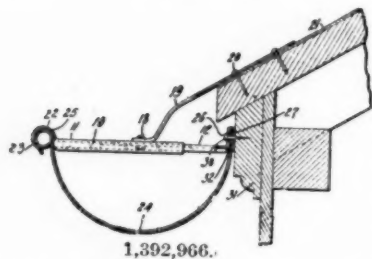
Solder alone will hold awhile but, as soon as the car goes over a rough road, or there has been much shaking up of the car from other causes, it will loosen up and the leaks be there again.

Nothing will prevent it but a complete re-building of the core, with the headsheets taken off the tanks and the tubes spread out after insertion to the rest tightly within the burrs.

(To be continued.)

Patent Rights Are Granted for Gutter Hanger.

Max Rachlin, New York, New York, assignor to Patented Metalware Corporation, Brooklyn, New York, a Corporation of New York, has obtained United States patent rights under number 1,392,966, for the gutter hanger described as follows:



A gutter hanger comprising a bar adapted to be placed transversely across the upper open end of a gutter and terminally secured to the upper edge portions thereof, said bar being formed of an inner and an outer section slidably secured together, the outer section having inwardly projecting flanges for bodily supporting the inner section and means for securing the sections in desired adjusted position.

Announces Convention of Sheet Metal Products Association.

In fixing December 8 and 9, 1921, as the dates for its Eleventh Annual Convention, the Sheet Metal Products Association announces to its members that this time of the year is most convenient for manufacturers of sheet metal products to be away from their offices for a few days.

"The season in most lines will be practically over," says D. C. Jones, Secretary of the Association, "and inventories will not have been started and plans for the coming year will soon have to be made."

The Convention this year will be held in the Congress Hotel, Chicago, Illinois.

No outside speakers will be asked to deliver addresses. The reason for this is set forth in the circular letter of Secretary Jones as follows:

"No one knows more about our industry than our own members and most of us are not interested in the pet theories of others. Every moment will, therefore, be available for discussion of matters of special interest to the membership.

"Farmers will have much more money to spend next year," adds Secretary Jones. "The building situation will have improved by then and millions will be spent for sheet metal highway equipment. Our industry is on the very threshold of a wonderful era of prosperity and indications are that next year will find every one with all the business they can handle."

Is Granted Patent Rights for Soldering Iron.

Raymond C. Parent, Chicago, Illinois, has obtained United States patent rights for the soldering iron reproduced herewith:



A self-heating implement for the purposes set forth comprising a reservoir handle, a yoke connected thereto and having openings in its sides, a burner including a needle valve secured within the yoke and accessible through openings therein for adjusting the needle-valve, feed pipes extending from the reservoir-handle to the burner, a fiber packing in the lower end of the reservoir into which the feed pipe extends, and a leather disk on top of the packing through which the liquid fuel permeates to said packing.

Notes and Queries.

"New Process" Oil Stove.

From Wilhelm-Coddington Hardware Company, No. 808 Lincoln Way, LaPorte, Indiana.

Can you tell us who makes the "New Process" oil stove?

Ans.—New Process Stove Company, Division American Stove Company, 4421 Perkins Avenue, Cleveland, Ohio.

Oil Burners.

From Wolfgang Bauer, 724 East Washington Street, Syracuse, New York.

Will you kindly advise me where I can purchase oil burners?

Ans.—American Foundry and Manufacturing Company, 710 K. C. Life Building, Kansas City, Missouri; Breeding Heat and Power Corporation, 311 Vine Street, Cincinnati, Ohio; Winslow Boiler and Engineering Company, 65 East Van Buren Street, Chicago, Illinois; Nokol Company of Illinois, 215 North Michigan Avenue, Chicago, Illinois; Master Oil Burner Company, 351 West 59th Street, Chicago, Illinois; Anthony Company, 9 Jackson Avenue, Long Island City, New York; Surface Combustion Company, 368 Gerard Avenue, New York City.

The man who thinks he can make a success of anything he undertakes is apt to be an unsuccessful thinker.

Illustrations of New Patents

Watch This Page. Keep Yourself Informed Concerning Improved Devices Which May Save Labor in Your Shop or Add Another Source of Income to Your Retail Store.

1,392,273. Washing Machine. Emmet B. Digby, Atlanta, Ga. Filed Sept. 7, 1920.

1,392,309. Stropping or Sharpening Apparatus for Razor Blades. Stanley Beaumont Earle, Hornchurch, England. Filed Feb. 14, 1917.

1,392,318. Wrench. Charles Frederick Fletcher, Farmington, W. Va. Filed May 26, 1921.

1,392,383. Strainer. Walter Bruce Wills, Baltimore, Md. Filed Oct. 26, 1920.

1,392,391. Quick Adjustable Monkey Wrench. Frank E. Bartz, Pittsburgh, Pa. Filed Oct. 2, 1920.

1,392,406. Dustpan. Wilfred Dupre, Worcester, Mass. Filed Feb. 17, 1921.

1,392,420. Portable Electric Light. Harry M. Koretzky, New York, N. Y. Filed March 10, 1920.

1,392,443. Wrench. William Petersen, De Witt, Nebr. Filed Feb. 26, 1921.

1,392,453. Fuel-Saving Device for Furnaces. Nelson J. Russell, Chicago, Ill. Filed Dec. 27, 1920.

1,392,460. Attachment for Washboilers. John I. Steen, Waukegan, Ill., assignor to Triple Metals Corporation, Waukegan, Ill., a Corporation of Illinois. Filed Oct. 6, 1920.

1,392,466. Can Opener. Henry Till, Pittsburg,

Calif. Continuation of applications Serial No. 335,355, filed Nov. 3, 1919, and Serial No. 346,025, filed Dec. 19, 1919. This application filed June 1, 1920.

1,392,478. Wringer Device. Paul W. Carroll, Des Moines, Iowa. Filed Nov. 20, 1919.

1,392,599. Fishing Tool. Albert F. Rose, Tulsa, Okla. Filed April 15, 1920.

1,392,627. Tool Handle. John P. Doman, Los Angeles, Calif., assignor of one-half to Orval T. Deal, Los Angeles, Calif. Filed April 30, 1921.

1,392,643. Burner for Stoves. Henry B. Hemp-hill, Eldorado, Ill., assignor of one-fourth to Antonio Bucovaz and one-fourth to Raffaele Clavara, Eldorado, Ill. Filed May 1, 1920.

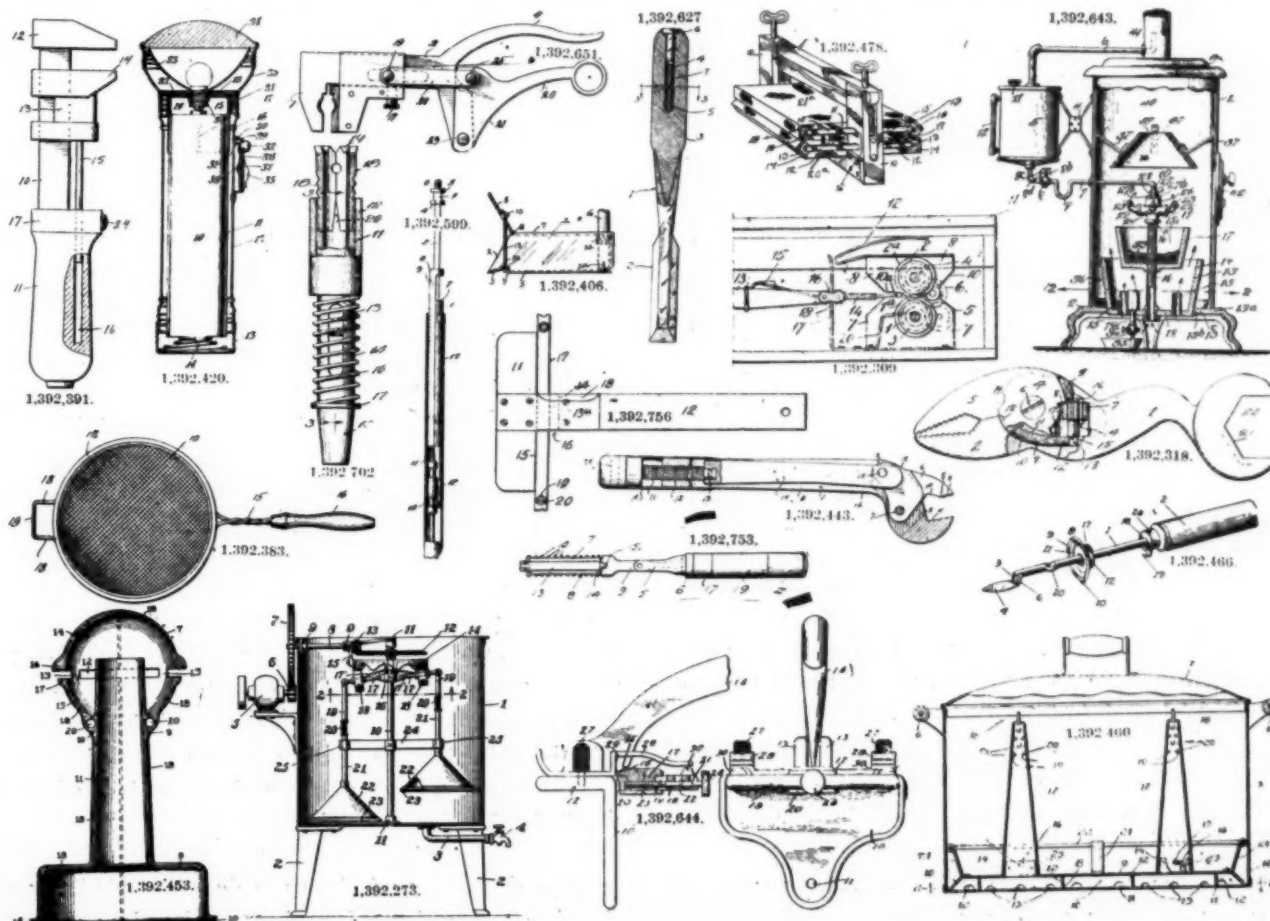
1,392,644. Saw Set. James William Ingleton, Astoria, Oreg. Filed July 1, 1920.

1,392,651. Wrench. Arthur W. Minney, Stockton, Calif. Filed May 20, 1921.

1,392,702. Drill Chuck or the Like. John H. Phillips, Chicago, Ill. Filed Feb. 27, 1920.

1,392,753. Safety Razor. Val F. Franck, Louisville, Ky. Filed March 22, 1921.

1,392,756. T-Square. Hugh N. Gahan, Kelowna, British Columbia, Canada. Filed Jan. 19, 1920.



Weekly Report of the Markets

General Conditions in the Steel Industry. Review of Prices and Tendencies in Sheet Metals, Pig Iron, etc.

NO INCREASED STEEL DEMAND IS EXPECTED THIS QUARTER.

Striking a general average of opinions current in the steel trade, the prevailing judgment is that the peak of demand for steel has been reached for the time being.

The swelling volume of orders in evidence since July was due, first, to the absorption of the war surplus that consumers were drawing on, and, second, to a well organized drive on the part of steel makers to book what orders they might need for their year-end requirements.

In July the steel business was sub-normal to general business, but the completion of the liquidation of war surpluses, coupled with the concerted drive for business, has allowed the steel industry to come up to a par with that of general business, and from now on the progress of both must be more or less co-incident.

November and March are usually the months when steel plants have maximum outputs. Conditions have been so abnormal, however, in the last year that ordinary rules do not apply.

For instance, production of ingots this year was largest in January, but the prospect is very favorable for relatively large production during the current month.

It is not generally appreciated how much the steel mills are benefiting from release of shipments against old contracts placed by the railroads the latter part of 1920 and the early part of 1921.

Orders for railroad equipment, too, including new construction as well as repair work, are supplying the mills with larger rollings for bars, plates and shapes.

Rail contracts aggregating 200,000 tons are now under negotiation for 1922 shipment and releases against 800,000 tons of old orders are constantly being made.

Contracts for cars and locomotives placed in the last ten days and others now pending will require fully 100,000 tons of steel. Not a few of these orders will be placed during the current month.

As a result steel plant operations will not only be maintained at the rate of last week but at least independent mills are expected to report an increase.

To one who understands the situation, it is not a surprise to learn that the leading interest today is producing ingots at the rate of 52 per cent of capacity which, if continued, during the remainder of the month, will mean an output of 990,000 tons of ingots or within 15,000 tons of the March production.

In fact, it would not be surprising to have the November output exceed that of March. Present operations are at the rate of about 11,770,000 tons a year.

Steel.

This week prices concession was one of the dominating features of the steel situation, and in some quar-

ters it is anticipated that the low price level of the year, touched last August, or lower will rule in the near future.

This is particularly noticeable in sheets, which were advanced from 2.75 and 3.75 cents for black and galvanized to 3.25 and 4.25 cents, respectively.

The lower prices have not yet been reached, but quotations are fast approaching that point.

However, lower tonnage wages and heavier operating rates have put makers in a position to quote lower prices. The American Steel & Wire Company has been taking mail orders from its customers for some days past, stating that its intention was to advance the \$2.90 price to \$3.05 a keg, but this move on the part of the leading interest is taken in the trade as an attempt to firm up the present market, at most.

Tin plate has dropped down to \$5 and \$4.75 a base box, as against the "official" quotation of \$5.25 that has ruled for some time.

The American Sheet & Tin Plate Co. have opened their books for first half 1922 business at this price.

Prices continue to sag, and the trade anticipates they will ease off for some weeks to come. One composite price for finished steel products now stands at 2.163 cents a pound, as against 2.177 cents last week, 3.724 cents a year ago—1.684 cents as the 10-year pre-war average.

Another of iron and steel products combined stands at \$35.28 a ton, as compared with \$35.53 last week.

Copper.

Buying of copper continues quite active on both domestic and foreign account.

As a result of the larger orders booked by producers in the last few days, prices are fully $\frac{1}{8}$ cents a pound higher while some producing interests are asking $\frac{1}{4}$ cents advance for electrolytic.

The tendency is upward. A further fractional advance is asked for shipments over the first quarter of next year.

Export demand was a prominent feature in the last few days. Buying is largely by France and Germany and some shipments also are being made to other European continental countries, but Great Britain is still conspicuous for its absence.

English consumers' perspective is limited by the large stocks of British war brass scrap.

It is estimated that during the past four months of this year alone the copper surplus of the country has been reduced by 250,000,000 pounds, and in one quarter it is thought that by the end of the year these supplies of refined copper will have been reduced by from 600,000,000 to 700,000,000 pounds, about half of which would be that ear-marked for export.

From this it is argued that it will be only a few months at the most before the desired technical position for the metal will have been achieved.

Tin.

Owing to the unfavorable statistical showing November 1st, the tin market has remained dull.

Early in the month quotations declined both in the domestic and foreign market.

The world's visible supply reached the unusually high total of 23,345 tons, an increase of 2,160 tons in October.

Deliveries of foreign tin in the United States in October were only 2,280 tons, while domestic tin deliveries were also light, as the domestic smelters have been getting little ore.

The Chicago prices for pig tin advanced $\frac{1}{4}$ cent per pound, making the quotations now in effect $31\frac{1}{4}$ cents.

Solder.

A decrease has taken place in the Chicago price for solder. Quotations now in effect are as follows: Warranted, 50-50, per hundred pounds, \$19.75; Commercial, 45-55, per hundred pounds, \$18.25; and Plumbers', per hundred pounds, \$17.00.

Lead.

Producers report a very fair condition of demand. There is a good deal of new business in sight and the deliveries called for are mainly prompt.

Pigment, cable and electrical interests appear to be leading at present and the consumption is maintaining a very satisfactory statistical position.

The lead ore market has continued firm at \$60 for some time though quoted earlier in the week at \$55, and the whole market has kept a remarkable equilibrium for several weeks.

Traders in consequence, are showing little interest, and there continues to be little business reported in futures.

In the Chicago market, prices declined 15 points. American pig lead is now quoted at \$4.80 per 100 pounds and bar lead \$5.55 per 100 pounds.

Zinc.

The zinc market took a strong turn for the better, recovering about 20 points during the week, on brisk buying of ore and slab zinc.

One producer bought 6,000 tons of ore at Joplin and the ore prices firmed to \$25.

Simultaneously, galvanizers bought heavily and some producers bought good-sized tonnages. Business was done at 4.75 cents, East St. Louis, November 5 and 7, as against 4.55 cents on November 1. High-grade zinc has held steady at $5.87\frac{1}{2}$ cents to 6 cents, delivered.

There was a very great increase in shipments of zinc ores during the month of October over that of the previous month. Reports for the month indicated 33,598 tons were shipped as compared with approximately 20,000 tons in September.

The average weekly shipment was 6,719 tons as compared with 5,000 tons. The value of ores shipped also showed a radical increase and this was the reason for the increased shipment of tonnage.

The values of the zinc ores totaled \$803,809, an average of \$23.92 as compared with \$20.57 the previous month. Prices ranged from \$20 to \$25, with a very large part of the sales at the higher rates.

All of this increase in the market and the heavy shipment was in the face of a possible strike which has hitherto had the effect of depressing the industry instead of stimulating it.

The effect upon the local production has been to increase productive activity. A number of mills have resumed operation or are getting ready for operation once more.

In spite of the active shipping of ores there has not been a very great decrease in stock of ore held in the field.

Sheets.

Recent efforts of some independent sheets producers to establish 3.25 cents and 4.25 cents, base Pittsburgh, prices for black and galvanized sheets, respectively, appear to have fallen through.

A few of the companies which lately have been endeavoring to obtain them quietly are withdrawing these quotations, going back to the levels which began to be quoted September 15, namely 3.00 cents and 4.00 cents base, Pittsburgh, respectively.

Tin Plate.

Stocks of tin plate are said to be below normal for this time of the year. Tin plate producers, therefore, expect that big contracts will be written on their books, within the next week or ten days.

Heavy tonnages of tin plate are in sight and the mills feel very optimistic for the prospects of this product for 1922. A shortage of canned goods is developing all through the country.

The new prices of tin plate in the Chicago market will be found under Current Hardware and Metal Prices in the present issue of **AMERICAN ARTISAN AND HARDWARE RECORD**.

Fence Wire and Nails.

It is generally believed that an advance in wire and wire nails is impending, but the American Steel & Wire Company has not yet made official announcement increasing present quotations.

Old Metals.

Wholesale quotations in the Chicago district which should be considered as nominal are as follows: Old steel axles, \$13.50 to \$14.00; old iron axles, \$18.50 to \$19.00; steel springs, \$13.75 to \$14.25; No. 1 wrought iron, \$12.50 to \$13.00; No. 1 cast, \$12.00 to \$12.50; all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, $6\frac{3}{4}$ cents; light brass, 4 cents; lead $3\frac{3}{4}$ cents; zinc, 2 cents; cast aluminum, 9 cents.

Pig Iron.

According to the weekly report of the Matthew Ady Company, Cincinnati, Ohio, there are some odd but suggestive things in the iron trade, as, for instance, the makers of bath tubs, sanitary plumbing and radiators are all running full and making new high records of production. Their goods are going mainly into old houses which are being remodeled or modernized. An unprecedented amount of such work is going on everywhere in the country. But when new building starts in earnest, think of the enormous tonnage of such things that will be required.

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS

PIG IRON.

Chicago Foundry	\$21 70
Southern Fdy. No. 2.....	24 66
Lake Sup. Charcoal.....	33 50
Malleable	21 70

FIRST QUALITY BRIGHT TIN PLATES.

	Per Box
1C 14x20 112 sheets	\$ 9 65
IX 14x20.....	11 05
IXX 14x20.....	12 30
IXXX 14x20.....	13 65
IXXXX 14x20.....	15 05
1C 20x28.....	19 30
IX 20x28.....	22 10
IXX 20x28.....	24 60
IXXX 20x28.....	27 30
IXXXX 20x28.....	30 10

COKE PLATES

Cokes, 180 lbs....	20x28 \$12 70
Cokes, 200 lbs....	20x28 13 00
Cokes, 214 lbs....	IC 20x28 13 35
Cokes, 270 lbs....	IX 20x28 15 55

BLUE ANNEALED SHEETS.

Base.....	per 100 lbs. \$3 38
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ONE PASS COLD ROLLED BLACK.

No. 18-20.....	per 100 lbs. \$3 95
No. 22-24.....	per 100 lbs. 4 00
No. 26.....	per 100 lbs. 4 05
No. 27.....	per 100 lbs. 4 10
No. 28.....	per 100 lbs. 4 15
No. 29.....	per 100 lbs. 4 25

GALVANIZED

No. 16.....	per 100 lbs. \$4 40
No. 18-20.....	per 100 lbs. 4 55
No. 22-24.....	per 100 lbs. 4 70
No. 26.....	per 100 lbs. 4 85
No. 27.....	per 100 lbs. 5 00
No. 28.....	per 100 lbs. 5 15
No. 30.....	per 100 lbs. 5 65

BAR SOLDER.

Warranted,	
50-50	per 100 lbs. \$19 75
Commercial,	
45-55	per 100 lbs. 18 25
Plumber's	per 100 lbs. 17 00

ZINC.

In Slabs	\$5 15
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SHEET ZINC.

Cask lots	11c
Less than cask lots.....	11 1/4-11 1/2c

COPPER.

Copper Sheet, mill base...	\$0 20 1/4
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LEAD.

American Pig	\$4 80
Bar	5 55
Sheet.	
Full coils.....	per 100 lbs. \$7 80
Cut coils	per 100 lbs. 8 05

TIN.

Pig tin	31 1/4
Bar tin	32 1/2c

HARDWARE, SHEET METAL SUPPLIES, WARM AIR HEATER FITTINGS AND ACCESSORIES.

ADZES.

Coopers'.	
Barton's	Net
White's	Net

ALARM CLOCKS.

Big Ben and Baby Ben.....	per doz. \$28 80
America	13 56
Tattoo	28 50

AMMUNITION.

Shells, Loaded, Peters.	
Loaded with Black Powder.....	18%
Loaded with Smokeless Powder	18%
Winchester.	
Smokeless Repeater Grade,	10 & 4%
Smokeless Leader Grade,	10 & 4%
Black Powder.....	10 & 4%

U. M. C.	
Nitro Club.....	10 & 4%
Arrow	10 & 4%
New Club.....	10 & 4%

Gun Wads—per 1000.	
Winchester 7-8 gauge.....	10 & 7 1/2%
" 9-10 gauge.....	10 & 7 1/2%
" 11-28 gauge.....	10 & 7 1/2%

Powder.	Each
DuPont's Sporting, kegs.....	\$11 25
" " 1/4 kegs	3 10
DuPont's Canisters, 1-lb.....	56
" " kegs.....	22 00
" " 1/4 kegs	5 75
" " canisters	1 00
Hercules "E.C." kegs.....	22 50
Hercules "Infallible," 25 can drums	22 00
Hercules "Infallible," 10-can drums	9 00
Hercules "E.C." and "Infallible," canisters	1 00
Hercules W. A. 30 Cal. Rifle, canisters	1 25
Hercules Sharpshooter Rifle, canisters	1 25
Hercules Bullseye Revolver, canisters	1 00

ASBESTOS.

Paper up to 1/16.....	10c per lb.
Millboard 3/32 to 1/4.....	10 1/2c per lb.
Corrugated Paper (250 sq. ft.)	\$6.50 per 100 lbs.
Rollboard	11c per lb.

AUGERS.

Boring Machine.....	40 @ 40 & 10%
Carpenter's Nut.....	50%
Hollow.	
Bonney's.....	per doz. \$30 00
Post Hole.	
Iwan's Post Hole and Well	30 and 5%
Vaughan's, 4 to 9 in., without handles.....	per doz. \$14 00
Ship.	
Ford's	Net

AWLS.

Brad.	
No. 3 Handled.....	per doz. \$0 65
No. 1050 Handled	" 1 40
Patent asst'd, 1 to 4	" 85

Harness.

Common	per doz. \$1 05
Patent	" 1 00
Peg.	
Shouldered	" 1 60
Patented	" 75

Scratch.

No. 18, socket	
Handled	per doz. \$2 50
No. 344 Goodell-Pratt, list less.....	35-40%
No. 7 Stanley.....	per doz. \$2 25

AXES.

First Quality, Single	
Bitted (unhandled), 3 to 4 lb., per doz.....	14 50
Good Quality, Single	
Bitted, same weight, per doz.	13 00

BAGS, PAPER, NAIL.

Pounds ..	10 16 20 25
Per 1000.....	\$5 00 6 50 7 50 9 00

BALANCES, SPRING.

Universal.	
Sight Spring.....	List less 25%
Straight	List less 25%

BARS, WRECKING.

V. & B. No. 12.....	\$0 45
V. & B. No. 24.....	0 75
V. & B. No. 324.....	0 80
V. & B. No. 30.....	0 85
V. & B. No. 330.....	0 90

BEATERS.

Carpet.	Per doz.
No. 7 Tinned Spring Wire.....	\$1 10
No. 8 Spring Wire Cop- pered	1 50
No. 9 Preston.....	1 75

BELLS.

Call.	
3-inch Nickered Rotary Bell, Bronzed base.....	per doz. \$5 50

Cow.	
Kentucky	32 1/2%

Door.	Per doz.
New Departure Automatic.....	Net

Rotary.	
3 -in. Old Copper Bell.....	Net
3 -in. Old Copper Bell, fancy	Net
3 -in. Nickered Steel Bell.....	Net
3 1/2 -in. Nickered Steel Bell.....	Net

Hand.	
Hand Bell, polished.....	List plus 15-10%
White Metal.....	List plus 15-10%
Nickel Plated.....	List plus 10%
Swiss	Net

Miscellaneous.	
Church and School, steel alloys	30%
Farm, lbs. 40 50 75 100	
Each	\$3 00 3 75 5 50 7 25

BEVELS, TEE.

Stanley's Rosewood handle, new list	Nets
Stanley iron handle.....	Nets

BINDING CLOTH.

Zinc	55%
Brass	40%
Brass, plated	60%

BITS.

Auger.	
Jennings Pattern.....	Net
Ford Car.....	List plus 5%
Ford's Ship.....	" " 5%
Irwin	35%
Russell Jennings.....	Plus 15%
Clark's Expansive.....	32 1/2%
Steer's " Small list, \$22 00.....	5%
" " Large " \$26 00.....	5%
Irwin Car.....	35%
Ford's Ship Auger pattern Car	List plus 5%
Center	10%

Countersink.

No. 18 Wheeler's.....	per doz. \$2 25
No. 20	" 3 00
American Snailhead	" 1 75
" Rose ..	" 2 00
" Flat ..	" 1 40
Mahew's Flat ..	" 1 60
" Snail ..	" 1 90

Dowel.

Russel Jennings.....	plus 20%
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Gimlet.

Standard Double Cut Gross	\$3 40
Nail Metal Single Cut	Gross \$4 00—\$5 00

Reamer.

Standard Square.....	Doz. \$2 50
American Octagon....	" 2 50

Screw Driver.

No. 1 Common.....	Each 18c
No. 26 Stanley.....	Each 70c

BLADES, SAW.

Wood.	
Atkins 30-in.	
Nos.	6 40 26
	\$3 90 \$3 45 \$5 40
Dixton 30-in.	
Nos.	6 66 26
	\$9 45 \$10 05 \$9 45

BLOCKS.

Wooden	20%
Patent	20%

BOARDS.

Stove.	Per doz.
26x26, wood lined.....	\$14 45
28x28, " ..	15 95
30x30, " ..	19 00
26x26, paper lined.....	\$ 8 15
28x28, " ..	9 10
30x30, " ..	10 80

Wash.	
No. 760, Banner Globe (single)	per doz. \$5 25
No. 652, Banner Globe (single)	per doz. 6 75
No. 801, Brass King, per doz. 8 25	
No. 860, Single—Plain Pump	6 25

BOLTS.

Carriage, Machine, etc.	
Carriage, cut thread, 1/4x6 and sizes smaller and shorter	50%
Carriage sizes larger and longer than 1/4x6.....	50-10%
Machine, 1/4x4 and sizes smaller and shorter.....	60-10%
Machine, sizes larger and longer than 1/4x4.....	50-10-5%
Stove	70-10%

Mortise, Door.	
Gem, iron	5%
Gem, bronze plated.....	5%

Barrel.	
Cast	Net
Wrought	"
Wrought, bronzed.....	"

Flush.	
Wrought	Net
Spring.	
Wrought	"
Wrought, heavy.....	"
Square.	
Wrought	"

BOXES.	
Mall. No. 2	4 10
Per doz. \$18 00	\$23 00 \$29 00
Mitre.	
Cast Iron	\$9 50
Stanley's.....	Net Prices
Stearns, No. 2.....	per doz. \$48 00

BRACES, RATCHET.	
Goodell-Pratt No. 408.....	\$4 60
" " No. 410.....	4 80
" " No. 412.....	5 00
V. & B. No. 444 8 in.....	4 65
V. & B. No. 323 8 in.....	4 30
V. & B. No. 222 8 in.....	4 00
V. & B. No. 111 8 in.....	3 50
V. & B. No. 11 8 in.....	3 05

BURRS, RIVETING.	
Copper Burrs only.....	.30% above list
Tinners' Iron Burrs only.....	Net

BUTTS.	
Steel, antique copper or dull brass finish—case lots—	
3 1/2 x 3 1/2.....	per dozen pairs \$2 75
4 x 4.....	" " 3 80
Heavy Bevel steel inside sets, case lots—	
.....	per dozen sets 7 50
Steel bit keyed front door sets, each.....	1 80
Wrought brass bit keyed front door sets, each....	3 25
Cylinder front door sets, each.....	7 00

CALIPERS.	
Double	Net
Inside and Outside.....	"
Wing	"

CANS.	
Milk.	
Ohio.	
Gals. 5	8 10
Each	\$3 65 \$4 45 \$4 70
Gem.	
Gals. 5	8 10
Each	\$3 85 \$4 95 \$5 20
Jersey or Holstein.	
Gals. 5	8 10
Each	\$4 15 \$5 60 \$5 90

CAN OPENERS.	
See openers.	

CARRIERS.	
Hay.	
Diamond, Regular...each, Nets	
Diamond, Sling.....	" "

CARTRIDGES.	
See Ammunition.	

CASTERS.	
Standard—Ball Bearing.	
.....	.50 & 10%
Bed .....	.40%

Common Plate.	
Brass Wheel .....	.15%
Iron and porcelain wheels, new list .....	.50%
Philadelphia Plate, new list .....	.50%
Martin's .....	.40%

CATCHERS, GRASS.	
No. 160S.....	per doz. \$12 25
No. 166S.....	" 14 01

CEMENT, FURNACE.	
American Seal, 5 lb. cans, net	\$0 45
" " 10 lb. cans, " "	90
" " 25 lb. cans, " "	1 87
Asbestos, 5 lb. cans.....	45
Pecora, 5 lb. cans.....	45
" 10 lb. cans.....	90
" 25 lb. cans.....	1 87

CHAINS.	
Breast Chains.	
With Slide.....doz. pairs,	\$5 50
Without Slide.....	5 06
Doubleslack	9 25
With Covert Snaps	8 28

Picture Chains.	
Light brass, 3 ft., per doz.	1 25
Heavy brass, 3 ft.	1 75

Sash Chain.	
(Morton's)	

Steel, per 100 ft.	
0	\$2 50
2	3 10
1	3 60

Champion Metal.	
0R	5 40
2R	5 60
1R	7 75

Champion Metal.—Extra Heavy.	
1H	\$9 50

Cable Sash Chains.	
Steel.....	List Net Plus 15%

CHALK, CARPENTERS'.	
Blue	per gro. \$2 00
Red	" 2 00
White	1 80
Common White School Crayon	0 30

CHIMNEY TOPS.	
In bags.....	per bag \$1 80

CHECKS, DOOR.	
Corbin	Net list
Russwin	Net list

CHISELS.	
Cold.	
Good quality, 5/8 in., each	\$0 44
" " 1/2 in.	0 28

Diamond Point.	
V. & B. No. 15, 1/4 in.....	0 23
V. & B. No. 15, 1/2 in.....	0 48

FIRMER BEVELLED.	
Berg's (Swedish).	
1/2-inch.....	per doz. \$ 4 45
1 - "	7 15
1 1/2 - "	10 15
2 - "	17 15
2 1/2 - "	28 95

Round Nose.	
V. & B. No. 65, 1/4 in.....	0 33
V. & B. No. 65, 1/2 in.....	0 44

SOCKET FIRMER.	
Berg's (Swedish).	
1/2-inch.....	per doz. \$11 95
1 - "	16 75
1 1/2 - "	23 95
2 - "	35 95

Cape.	
V. & B. No. 50, 1/4 in.....	0 29
V. & B. No. 50, 1/2 in.....	0 64

CHUCKS, DRILL.	
Goodell's, for Goodell's Screw Drivers.....	List less 25-40%
Yankee, for Yankee Screw Drivers	\$6 00

CHURNS.	
Anti-Bent Wood.	
Gal. 5	7 10
Each	\$3 00 4 60 4 85
Belle, Barrel.....	.65 & 7 1/2%
Common Dash, Gal.	5 7
Per doz.....	\$17 00 19 00

CLAMPS.	
Adjustable.	
Martin's .....	.30%
No. 63, Screw.....	.20%

Cabinet.	
Screw .....	.20%

Carpenters'.	
Steel Bar...List price plus 20%.	

Carriage Makers'.	
2 1/2-inch.....	per doz. \$ 7 00
5 - "	14 00
8 - "	28 06
12 - "	42 00

Quilt Frame.	
No. 30, Ball and Socket, 2 1/2-in. head.....	per gross \$13 00
No. 50 Ball and Socket, 3 1/2-in. head.....	per gross 14 50

Hose.	
Sherman's, brass, 1/4-inch, per doz.....	\$0 48
Double, brass, 1/4-inch, per doz.....	1 20

Saw Filers.	
Wentworth's, No. 1, \$12.50; No. 2, \$18.25; No. 3, \$18.25.	

CLAWS, TACK.	
Wood hdl. No. 10.....	per doz. \$1 15
Forged steel, wood hdl. " "	2 15
Solid steel	3 25
Giant	50

CLEAVERS.	
Family.	
Beatty's, inch .. 7	8 9 10
Per doz.....	\$25 10 27 50 30 50 33 50

CLEAVES.	
Malleable	10c lb.

CLIPPERS.	
Bolt (Carolus).	
No. 0.....	\$2 50
No. 1.....	3 25
No. 3.....	4 25

CLIPS.	
Axle .....	.65 @ 5%

Damper.	
Standard	per doz. 70c
Troy	38c

Hame	
"	50c

COLLARS, STOVE PIPE.	
Lacquered.	
Inches	5 6 7
Fancy pattern, per doz.....	.65c 75c \$1 00

COMPASSES.	
Carpenters' .....	.15%

COPPERS—Soldering.	
Pointed Roofing.	
3 lb. and heavier....	per lb. 40c
2 lb.	48c
2 1/2 lb.	45c
1 1/2 lb.	55c
1 lb.	60c

CORD.	
Picture.	
White Wire.....	.60 & 5%
Sash.	
Spot, No. 7.....	per lb. 65c
Common, No. 7.....	40c

COTTERS, SPRING.	
All sizes.....	.87 1/2%

COUPLINGS, HOSE.	
Brass.....	per doz. \$2 25

CRADLES, GRAIN.	
Morgan's Grapevine.....	per doz. \$45 00

CUT-OFFS.	
Standard gauge.....	.35%
26 gauge.....	.20%

CUTTERS.	
Glass.	
Red Devil.....	Net

Ment.	
Enterprise—Nos. 5	
Each	\$2 50 \$4 25 \$3 75
" Nos. 22	32
"	\$6 50 \$8 50

Pipe.	
Saunders's, Nos. 1	2 3
Each	\$1 35 2 75 6 75

Slaw and Kraut.	
4-knife Kraut.....	per doz. \$20 00-55 00

3-knife Kraut, 8x27 in.	
1-knife Slaw.....	2 50
2-knife Slaw.....	3 00

Washer	
"	11 00

DAMPERS, STOVE PIPE.	
Diamond, 6-inch.....	per doz. \$1 50

DIGGERS.	
Post Hole.	
Eureka.....	per doz. \$15 75

Iwan's Split Handle (Eureka)	
4-ft. Handle....	per doz. 15 00

7-ft. Handle....	
per doz.	20 00
Iwan's Hercules pattern, per doz.....	13 00
Dividers, Wing .....	.25%

DRILLS.	
Bench.	
Blacksmiths' Twist (New List) .....	.40%

Breast.	
Millers Falls No. 12, per doz.	\$52 50
Millers Falls No. 112, per doz.	32 00

Hand.	
Goodell's Automatic.	
No. 01.....	each \$1 00
No. 03.....	" 2 00
Goodell-Pratt No. 4 1/2, each	3 00
Goodell-Pratt No. 379.	4 00

Reciprocating.	
Goodell's	" 3 30

DRIVERS, SCREW.	
Standard	
Lock Ferrule	Nets
Clark's Interchangeable....	"
Goodell's Spiral.....	"
Yankee Ratchet	"
" Spiral	"

EAVES TROUGH.	
70-20% off Standard List.	
Milcor	Net

ELBOWS—Conductor Pipe.	
Galvanized Steel, Tin and Tarn.	
Plain Round or Round Corrugated.	
2 to 6 inch, Std. gauge....	60-10-5%
2 to 6 inch, 26 gauge....	40-10-5%
2 to 6 inch, 24 gauge....	15-10-5%
Milcor	Net

Square Corrugated.	
Standard gauge.....	45-10-5%
26 gauge.....	30-10-5%
Milcor	Net

ELBOWS—Stove Pipe.	
1-piece Corrugated, Uniform.	
Dox.	
5-inch	\$1 50
6-inch	1 60
7-inch	2 10

Uniform, Collar Adjustable.	
Dox.	
5-inch	\$1 90
6-inch	2 00
7-inch	2 50

ENAMEL.	
Per doz.	
Black Silk Air Drying.	
No. 1, 1/4 pt. can with brush	\$1 95
No. 2, 1 pt. can with brush	3 50
Wire Screen Enamel.	
Black Silk (Black only).	
Per doz.	
1/4 pt. friction top can.....	\$2 00
1 pt. friction top can.....	3 00
1 qt. friction top can.....	5 40

FACES, WOOD.	
50% off list.	
FASTENERS, STORM SASH.	
Shroeder's	per doz. \$1 50
Sensible	" 3 00

FENCING.	
Lawn fence, single space,	
36-inch	\$ 9 12
Lawn fence, single space,	
42-inch	10 25
Lawn fence, double space,	
36-inch	12 84
Lawn fence, double space,	
42-inch	13 78
Field fence, 36-inch, No. 10	
top and bottom 12 filling	26 50

GALVANIZED WARE.		HANDLES.		Screw Hook and Strap.		KETTLES.	
Pails (Competition), 8-qt.	Per doz. \$2 00	Agricultural Tool.		6 to 12 in. per 100 lbs.	\$7 75	Brass	15%
10-qt.	2 35	4 1/2-inch, plain.	per doz. \$3 50	14 to 20 in.	7 50	Cauldron	40&5%
12-qt.	2 50			22 to 36 in.	7 25	Copper	per lb. 27
14-qt.	2 80	Auger.				Maslin	40&10%
Wash tubs, No. 1.	6 50	Common Assorted, per doz.	\$0 75	Screw Hook and Eye.		Sugar	50%
No. 2.	7 50	Pratt's Adjustable, Nos.	6 00	1/2 in. per doz. pair	\$2 00		
No. 3.	8 50	1 & 2, per doz.	6 00	1/2 in.	8 50		
		Ives' Adjustable, per set	1 35	1/2 in.	5 00		
GARAGE DOOR HARDWARE.		Axe.				KNIVES.	
Stanley	All net	Hickory, No. 1.	per doz. 4 00			Beet Topping.	
GAUGES.		Hickory, No. 2.	2 50	HOES.		Clyde, 9-in. Scimitar Blade,	25%
Cream Pail.		1st quality, second growth	6 00	Garden	Net	California	25%
Fairmount	per doz. \$3 75	Special white, 2nd growth.	5 00				
Marking, Mortise, etc.				HOOKS.		Butcher.	
	Nets	Chisel.		Awning, No. 60.	Net	Beechwood Handles, 6-inch	25%
Wire.		Hickory, Tanged, Firmer,				blade	25%
Disston's	25%	Assorted	per doz. 55c	Belt.		Beechwood Handles, 7-inch	25%
		Hickory, Socket Firmer,	70c	Brown's	70&5%	blade	25%
GIMLETS.		Assorted	per doz. 70c	Jones'	65&5%	Beechwood Handles, 8-inch	25%
Discount	65% and 10%	Coal Pick.	40%			blade	25%
GLASS.		Drifting Pick.	40%			Cooper's Hoop	25%
Single Strength, A and B,		File, assorted.	per doz. 30c	Box.			
all sizes	81%	Hammer and Hatchet.		No.	8 10 12	Corn.	
Double Strength, A and B,		No. 1, per doz.	\$0 80	Each	\$0 29 0 77 0 86	Clipper	25%
all sizes	83%	Second growth hickory, per	1 40			Disston's No. 2.	25%
GLOVES.		doz.		Bush.		Earle's	25%
6-oz. knit wrist gloves.	\$1 00	Hay and Manure Fork, Han-		Common Axe Handle,	\$20 00	Woodford	25%
8-oz. knit wrist gloves.	1 20	dies, Strap and Ferrule.	per doz. \$7 00	per doz.			
10-oz. knit wrist gloves.	1 45			Chain.		Drawing.	
GLUE.		Screw Driver.	each 6c	Inch. 1/4 5/16 3/8 7/16 1/2		Standard	25%
Bulk.		Assorted	each 6c	Pr. 100 \$7 60-\$10 9 75 11 50 12 60		Adjustable	25%
B Amber	per lb. 35c	Shovel and Spade.	Net			Barton's Carpenters'	25%
A white	40c			Clothes Line.			
H. S. Amber	32c	HANGERS.		Japanned	per doz. 35c@1 00	Hay.	
Liquid.		Door.		Galvanized	65c@2 25	Iwan's Solid Socket.	25%
Army & Navy	40%	Matchless	Net			Heath's	25%
Le Page's		Reliable	Net	Conductor.		Iwan's, Sickle Edge.	25%
List "A"	37 1/2%	Richards	25%	Conductor hooks	20-10%	Iwan's Imp'd Serrated.	25%
List "B"	25%	Garage Door.		Milcor	Net		
List "C"	25%	(See Garage Door Hdw.)		Corn.		Hedge.	
GREASE, AXLE.		Conductor Pipe.		Common, riveted, red, per dz.	Net	Challenge	25%
Wood Boxes.		Iwan's Perfection	50%	Little Giant	"	Disston's No. 1.	25%
Frazer's	per gro. \$13 00	Milcor Perfection	Net				
Hub Lightning	7 50			Grass.		Mining.	
Wood Pails.		Eaves Trough.		Common Nos. 1 3 5 7		Common, Single	25%
Frazer's, 15 lb. \$1.00; 25 lb. \$1.50		Steel hangers	30%	Per doz. \$4 25 3 25 3 40 3 50		Common, Double	25%
Hub Lightning, 15 lb. 90c; 25 lb. \$1.21		Triple twist wire	10%			Streeter, 4-blade	25%
Family.		Milcor Eclipse	Net	Hammock.		Streeter, 6-blade	25%
Inches 7 8 10 12		Milcor Triplex	Net	With plate	per doz. \$1 00		
Prices on application.		Milcor Milwaukee	Net	With screw	95	Putty.	
Mounted.		HASPS.				Common	25%
Ball Bearing	1 2 3	Hinge, Wrought, with staples.	Net	Picture	50%&50%&10%	Landers	25%
Prices on application.				Potato and Manure	Nets		
GUNS.		HATCHETS.				Scraping.	
Iver Johnson Champion Single		Per doz.		HOSE.		Beech Handle	25%
Barrel Shot Guns	Net	Size No. 2 extra quality		Per ft.		Lander's	25%
Double Barrel, Hammerless		broad	\$19 00	1/2-inch molded reel	15c		
HAFTS, AWL.		Competitive Grade	13 00 up	1/2-inch 3 ply duck	15c	KNOB.	
Brad.		No. 2 Warranted Shingling	14 25	1/2-inch 4 ply duck	17 1/2c	Door.	
Common	per doz. \$0 35	Competitive Forged	9 75	1/2-inch 5 ply multiple	13c	Mineral	per doz. \$2 00
Feg.						Porcelain	2 00
Patent, plain top	60	HAY RACK BRACKETS.		HUSKERS.		Jet	2 00
Patent, leather top	80	Wenzleman's No. 1		Nos.	B E		
Sewing.		Wenzleman's No. 2	19 20	Per doz.	New Nets	LADDERS.	
Common	24			No. 59	per doz. New Nets	Step.	
Patent	55	HINGES.				Common, per ft.	23c
HAMMERS, HANDLED.		Clark's Gravity		Plane.		Common, with Shelf, add 10c.	
Blacksmiths, Hand, No. 0.	Each, net	No. 1	per set 45c	Wood Bench	Add 10% to list	IXL	24c
24 oz.	\$1 35	No. 2	88c			Challenge, 6 to 9 ft.	55c
Engineers', No. 1, 24 oz.	1 35	Gate.		IRONS.		10 to 18 ft.	60c
Farriers', No. 7, 7 oz.	1 41	Clarks	1 2 2	Charcoal	per doz. \$11.00		
Machinists', No. 1, 7 oz.	1 06	Hgs & Litch, ea.	35c 1 10 2 40	Common, polished, per		LANTERNS.	
NaH.		Hinges only—		100 lbs.	7 75	Monarch tin, hot blast	\$ 9 50
Vanadium, No. 4 1/2, 16 oz.	1 56	Upper	\$1 25	No. 70 Asbestos	\$1 50 net	Diets No. 2 cold blast	14 50
V. & B., No. 11 1/2, 16 oz.	1 13	Lower	1 55	No. 100	1 75 net	Best tubular	9 50
Garden City, No. 11 1/2, 16 oz.	94	Latches only—		Common, nickel plated	8 25	Competition lanterns No. 0	7 80
Tinner's Riveting, No. 1, 8 oz., each		No. 1	each 28c	Mrs. Pott's,		tubular	
	80	No. 2	28c	No. 50 J, Enterprise, per set Nets			
Shoe, Steel, No. 1, 13 oz., each		Screen Door.		No. 55 J,		LEATHER, LACE.	
	78	1751-3x3	doz. \$2 00	No. 50 T,		Rawhide 1/2-inch	100 ft. \$3 40
Tack.		1753-2 1/2x2 1/2	1 95	No. 55 T,		1/2-inch	4 40
Magnetic		Spring.					
No. 5, each	1 00	Chicago	Add 10% to list	JACKS.		LEATHERS, PUMP.	
HAMMERS, HEAVY.		Gem	25%	Wagon.		Valve and Plunger	Net
Farriers'	20%	Matchless	40%	Richard's No. 1.	per doz. \$15 50		
Masons'.		New Idea	per gross \$6 90	Oliver,		LEVELS.	
Single and Double Face	50%	Wrought Iron.		Nos.	0 00	Disston, No. 22 Asst.	\$32 05
		Per 100 pairs with screws:		Each	\$0 60 \$0 80	" No. 18, 30 in. each	1 51
		Light Strap Hinges, No. 3	\$12 00	Standard,		" No. 22, 34 in. each	2 40
		Heavy Strap Hinges, No. 4	15 75	Nos.	1 2	" Shafting, 6 in.	19 80
		Light T Hinges, No. 3	12 10	Each	\$0 60 \$1 00	" 6 in. gr. glass	24 20
		Heavy T Hinges, No. 4	20 00	R-W		" No. 1 Asst.	5 75
		Extra Heavy T Hinges,		Big Lift.	40%	" No. 9 Asst.	12 40
		No. 4	21 50	Tiger	40%	" 24-36 in. each	1 03
						" 28-30 in. each	1 09

LINING, STOVE. Bricks .....per crate 42c	NIPPERS. End Cutting. Berg's (Swedish) In. 5 6 Per dozen.....\$12 60 15 20	PARERS. Apple. Goodell's .....per doz. \$10 80 Turntable " 11 40 White Mountain " 8 40 Reading No. 78 " 11 40	Lineman's Side Cutting. Berg's (Swedish), In. 6 7 8 Blk. Pol. Face, doz. ....\$10 70 20 00 23 35
LOCKS. Barn Door. No. 60 Stearns...per doz. \$12 00 No. 80 " " " 24 00	End and Diagonal Cutting. Berg's (Swedish) In. 5 6 Per dozen.....\$10 05 13 00	Potato. Goodell's Saratoga, 10 1/2 in., doz. 6 50 Goodell's Saratoga, 5 in., doz. 5 50	Long Nose Side Cutting. Berg's (Swedish) In. 5 6 Blk. Pol. Face, doz. \$12 25 15 20
MACHINES. Hiveting. Stearns No. 1...per doz. \$16 00	Hoof. Heller's .....40&10% V. & B. No. 52, each.....\$2 25	PICKS. Adze Eye Ore.....22 1/2% Drifting and Poll Picks.....22 1/2% Plumba, Railroad .....22 1/2% Surface .....22 1/2%	Flat and Round Nose. Berg's (Swedish) Flat, In. 4 6 8 Blk. Pol. Face, Doz. ....\$8 90 13 35 19 65
Tenoning. No. 50 Peace's Spoke, each \$16 00	NOZZLES. Hose. Magic .....per doz. \$9 50 Diamond " 8 75	PINCERS. Carpenters', cast steel, No. 8 10 12 Each \$0 56 \$0 72 \$0 93 \$1 03 Blacksmiths', No. 10.....\$0 96 Heller's .....List plus 10%	Berg's (Swedish) Round, In. 4 6 8 Blk. Pol. Face Dca. \$11 15 16 30 23 35
MAIL BOXES. See Boxes.	NUTS, HOT PRESSED. Square Tapped. \$2.41 off per 100 lbs. Hexagon Tapped. \$2.41 off per 100 lbs.	PINS. Clothes. Common, per box of 5 gro. \$0 95	POINTS, GLAZIERS. No. 1, 2 and 3.....per doz. 75c
MALLETS. Carpenters'. Fibre Head, No. 2 per doz. \$16 50 " No. 3 " 19 50 " No. 4 " 28 50	OILERS. Chase Pattern. Brass and Copper.....10% Zinc .....20% Railroad. Coppered .....33 1/2%	PIPE. Conductor. Plain Round and Round Corrugated. 29 Gauge .....55% 28 "45% 26 "35% 24 "10%	POINTERS, SPOKE. Stearns' No. 1.....per doz. \$10 00 " No. 2..... " 13 00
Round Hickory .....per doz. \$3 00—5 00 Round Lig-numvitae " 6 25—10 50 Square Hickory " 3 50—5 50 Square Lig-numvitae " 8 00—12 00	Steel. Copper Plated .....50-10-5%	Ficket. Pluted, 15-in.....per doz. \$1 10 Pluted, 21-in..... " 1 60 Spiral " 1 90	POKERS, STOVE. Wr't Steel, str't or bent, .....per doz. \$9 75 Nickel Plated, coil han't " 1 10
TINNERS'. Hickory .....per doz. \$2 25	OPENERS. Can. Delmonico .....per doz. \$1 30 Never Slip..... " 65	Galvanized Tencan Metal, Genuine O. H. Iron, Lyonmore Metal, Charcoal Iron and Keystone C. B. Plain Round and Round Corrugated. 29 Gauge .....40% 28 "35% 26 "30% 24 "10%	POLISH. Metal. Per doz. Black Silk No. 60—6 oz. \$ 1 50 Black Silk No. 70—1 pt. 2 00 Black Silk No. 80—1 qt. 5 00 Black Silk No. 90—1 gal. 12 00
MATS. Door. National Rigid.....5&10&5% Acme Steel Flexible.....50%	Crate. V. & B. ...per doz. \$7 25-11 00	Standard Gauge. Crated and nested.....60-25% Crated, not nested.....60-20%	Stove. Black Silk No. 5 paste, 5 oz. can\$ 1 20 Black Silk No. 10 paste, 1/2 lb. can 2 00 Black Silk No. 10A paste, (fireproof), 1 1/2 lb. can. 1 50 Black Silk No. 15 paste, 1 lb. can 3 00 Black Silk No. 20 paste, 5 lb. can..... 11 40 Black Silk No. 6 liquid, 6 oz. can 1 35 Black Silk No. 8 liquid, 1/2 pt. can..... 2 00 Black Silk No. 12 liquid, 1 pt. can..... 3 00
MAULS. Wood Choppers'. Lake Superior & Oregon pat. ....40&5%	OUTFITS, COBBLING. Combination .....per doz. \$16 00 Economy " 8 50 Family " 14 50	Stock. Galv. qts. 14 16 18 20 Per doz. \$9 75 10 75 12 75 14 50	PRESSES, FRUIT AND JELLY Enterprise Manufacturing Co. 25%
MEASURES. Galvanized, doz.....Nets Japanned, doz.....Nets	PAIS. Cream. 14-qt. without gauge .....per doz. \$9 50 18-qt. without gauge, .....per doz. 11 00 20-qt. without gauge, .....per doz. 11 75	Standard Gauge. Crated and nested.....60-25% Crated, not nested.....60-20%	PRUNERS. Diamon's Pole.....per doz. \$18 00 Water's Improved, per doz. 60%
MITRES. Galvanized steel mitres, end caps, end pieces, outlets....30% Milcor .....Net	Water. Galvanized qts. 10 12 14 Per doz. \$5 75 6 50 7 25	Standard Gauge. Crated and nested.....60-25% Crated, not nested.....60-20%	PULLERS. Cork. Daisy .....each \$3 10 Phoenix " 1 40 Quick and Easy..... " 2 70
MOPS. Cotton. Star (Cut Ends). Pounds 12' 15' 18' 24'-3-oz. Per doz. \$4 00 4 35 5 50 7 00 Enterprise .....16% Parker .....50&5%	Wood. Cable, 2-Hoop...per doz. Nets Cable, 3-Hoop.... " Nets Cedar, 3-Hoop, brass " Nets	Standard Gauge. Crated and nested.....60-25% Crated, not nested.....60-20%	PULLEYS. Awning—Jap'd .....10% Clothes Line .....10%
NAILS. Out Steel.....\$4 25 Out Iron..... 4 45 Wire. Commox 3 75 Cement Coated, Small Lots..... 4 20	PANS. Dripping .....Net Fry. Common .....Nets Acme "	Standard Gauge. Crated and nested.....60-25% Crated, not nested.....60-20%	Hay Fork. Iron Wheel, 5-in., per doz. \$2 50 Wood Wheel, 5-in. " 2 65 Wood Wheel, 6-in., pass knot " 3 00
HORSESHOE. Ausable .....55&5% Capwell .....15% Perfect .....55&5% Putnam .....20&5% Star .....30&5%	Roasting. Paxton, Nos. 1 2 3 4 Per doz. ....Nets Neverburn " Savory, No. 200..per doz. \$8 40	Standard Gauge. Crated and nested.....60-25% Crated, not nested.....60-20%	Saah. Common.....Net Common-Sense, 2-in.....Net Empire Pattern, 2-in.....Net Ideal .....Net Steel .....Net
Picture. Brass Heads.....25% Brads .....50&5% Furniture .....List plus 15%	PAPER. Roofing. Per square. Major, 1-ply .....\$1 28 " 2-ply 2 24 " 3-ply 2 65 Red Rosin.....per ton \$111 45	Standard Gauge. Crated and nested.....60-25% Crated, not nested.....60-20%	Spray. Midget Junior.....per doz. \$3 75 New Misty " 5 00 Crescent " 5 50
NAIL PULLERS. See Pullers.	Sand and Emery. No. 1 per ream, best grade \$5 40 No. 1, per ream, cheaper grade 4 35	Standard Gauge. Crated and nested.....60-25% Crated, not nested.....60-20%	PUNCHES. No. 22.....per doz. \$3 00 Machine .....per lb. 25
NAIL SETS. See Sets.	FLIERS. V. & B. No. 6.....each \$0 57 " No. 7 Gas..... 0 60 " Double Duty 106.. 0 56 " Nut No. 3..... 0 64	Standard Gauge. Crated and nested.....60-25% Crated, not nested.....60-20%	SADDLERS'. Common...per doz. \$1 50 to \$5 00 Revolving Spring. Stearns, No. 10..per doz. \$ 8 00 " No. 40.. " 16 00 " No. 60.. " 19 00 Parker Metal Punch No. OX .....each \$7 00 Whitney's Ball-bearing... .....Prices on application
NETTING, POULTRY. Galvanized before weaving...50% Galvanized after weaving...40%	FLIERS. V. & B. No. 6.....each \$0 57 " No. 7 Gas..... 0 60 " Double Duty 106.. 0 56 " Nut No. 3..... 0 64	Standard Gauge. Crated and nested.....60-25% Crated, not nested.....60-20%	Standard Gauge. Crated and nested.....60-25% Crated, not nested.....60-20%

PUTTY.
Commercial Putty, 100-lb.
kits\$4 75

RAIL.
Barn Door.
Matchless, 1-in. 5c
Matchless, 1 1/4-in. 7c
Storm King 5c
Sliding Door.
Bronzed wrought iron,
..... per ft. 8 1/2c

RAKES.
Garden. Per doz.
Steel, Bow, 12-in. Teeth...\$8 50
Steel, Bow, 14-inch " ... 9 25
Malleable Iron, 12-in. " ... 4 75
Malleable Iron, 14-in. " ... 5 00

Hay.
Wood, 10 Teeth.....\$4 00

Lawn.
20 Teethper doz. 5 50

RAZORS—SAFETY.
Gilletteper doz. \$45 00
Auto Strip 45 00
Gem 3 40
Gem (3 doz. lots) .. 3 00
Ever Ready 2 40
Ever Ready (3 dz. lots) " 2 00

RAZORS—STRAIGHT.

RAZOR STROPS.
Star (Honing)50%

REGISTERS.
Cast Iron20%
Steel and Semi-Steel.....30%
Baseboard30%
Adjustable Ceiling Ventilators 30%

REGISTER FACES.
Japanned, Bronzed and Plated.
4x6 to 14x14.....30%
14x14 to 38x42.....50%

REVOLVERS.
Iver Johnson Safety Automatic
HammerNet
Hammerless
I. J. Model 199....."

RIDGE ROLL.
Galvanized.
Crated70-25%
Wired70-25-5%
MilcorNet

RINGS AND RINGERS.
Pull.
Copper2 1/4-in. 3-in.
Per doz.....\$2 40 \$2 65
Rea's Improved Self-
Piercing copper,
..... doz. 3 40
Steel, per doz..... 1 50 1 80

Hog.
Blair's Rings.....per doz. \$ 75
Blair's Ringers..... 1 00
Brown's Ringers..... 72
Brown's Ringers..... 1 00
Hill's Ringers..... 1 00
Hill's Ring, boxes " 72
Major Rings 60
Perfect Ringers..... 1 50
Wolverine Rings..... 1 10
Wolverine Ringers " 1 10

Fruit Jar.
Whiteper lb. 30
Key.
Split, round.....per doz. \$0 17
Split, square..... 32
Ball, round..... 46

RIVETS.
Copper Belt.....Add 15% to list
Coppered Iron20%
Tinners'30%
Hame.....per lb. \$0 17
Slotted Clinch per doz. 60@1 10

Tubular.
Nos. 1 and 2 assorted sizes,
50 in box.....doz. 75c
Nos. 1 and 2 assorted sizes,
10 in box.....doz. 1 40

ROPE.
Cotton.
1/4, 5-16 in. Com. on reels,
per lb. 80c
1/4, 5-16 in. Com. in coils,
per lb. 80c

Sisal.
1st Quality, base.....12 1/2c to 14 1/2c
No. 211 1/2c to 13 1/2c

Manila.
1st quality standard
brands15 1/2c to 16 1/2c
No. 214 1/2c to 15 1/2c

Pure Manila.
1st quality, base, per lb.
.....17 1/2c to 18 1/2c
Hardware Grade, per lb.
.....16 1/2c to 17 1/2c

SAWS.
Butchers'.
Atkins No. 2, 14-in.....\$12 20
" No. 2, 18-in..... 13 70
" No. 2, 22-in..... 15 25
" No. 7, 16-in..... 15 30
" No. 7, 20-in..... 17 30
" No. 7, 24-in..... 19 35
" No. 7, 28-in..... 21 40
Disston's No. 2, 14-in..... 18 20
" No. 2, 18-in..... 19 50
" No. 2, 22-in..... 20 85
" No. 7, 16-in..... 20 00
" No. 7, 20-in..... 21 35
" No. 7, 24-in..... 23 35
" No. 7, 28-in..... 26 00

Compass.
Atkins No. 2, 10-in.....\$ 4 95
" No. 10, 10-in..... 5 10
" Blades, No. 2, 10 in. 2 95
" No. 2, 10 in. 3 00
Disston's No. 20 Jackson. 4 00
" No. 40 Sampson 2 50
" No. 2 & 77, 10-in. 6 05
" No. 9, 10-in..... 6 80

Cross-Cut.
Atkins No. 221, 4-ft..... 2 70
" No. 221, 6-ft..... 4 10
" No. 221, 8-ft..... 5 45
Disston's No. 289, 4-ft..... 3 15
" No. 289, 6-ft..... 6 15
" No. 289, 8-ft..... 10 65

Flooring.
Atkins No. 95, 16-in..... 19 95
" No. 95, 20-in..... 21 85
Disston's D19, 16-in..... 24 50
" D19, 20-in..... 31 00

Hand and Rip.
Atkins No. 54, 20-in..... 17 75
" No. 54, 26-in..... 22 10
" No. 53, 16-in..... 14 45
" No. 53, 20-in..... 20 30
" No. 53, 24-in..... 24 20
" No. 53, 28-in..... 28 60
" No. 53, 30-in..... 31 95
Disston's No. 7, 20-in..... 19 30
" No. 8, 16-in..... 17 55
" No. 8, 20-in..... 20 75
" No. 8, 24-in..... 24 40
" No. 8, 28-in..... 29 50
" No. 8, 30-in..... 32 95

Keyhole.
Atkins No. 1, complete... 2 80
" No. 2, complete... 3 35
Disston's No. 5, complete 3 35
" No. 10, complete 3 70
" No. 95, complete 6 75

Miter Box.
Atkins No. 1, 4x20..... 29 70
" No. 1, 5x22..... 34 55
" No. 1, 6x22..... 33 35
Disston's No. 4, 4x20-in. 26 15
" No. 4, 5x22-in..... 43 25
" No. 4, 6x22-in..... 47 20

Pruning.
Atkins No. 20, 12-in..... 7 70
" No. 10, 16-in..... 16 50
Disston's No. 20..... 18 75

Wood.
Atkins No. 202..... 8 50
" No. 318..... 10 05
" No. 908..... 15 65
" No. 1509..... 18 40
Disston's No. 111, 30-in. 22 20
" No. 111, 32-in. 22 75
" No. 47, 30-in. 20 25
" No. 47, 32-in. 20 80

Star60%
SCISSORS.
Hubbard Western Pattern Riveted.
Size A B C D
1.. \$16 75 16 00 15 25 14 45
4.. 17 85 17 10 16 35 15 60
6.. 18 65 17 85 17 10 16 35

SCRAPERS.
Box.
Triangular, No. 6 per doz. \$6 25
Road.
Cubic ft. 7 5 3
With runners, ea. \$7 00 6 50 6 20

SCREEN DOOR HINGES.
Cast Irongross \$13 00
Steel " 9 50

SCREWS.
Bench.
Iron, 1/4, 1 1/4 1 1/4
\$6 32 7 37 9 45 16 30
Wood, white maple, per doz. 6 00

Hand—Wood50%
Hand Ball22%
Jack30%
**Lag or Coach—all sizes, gimlet
pointed**45-50%
Saw—Centennial,

Nos. 1 2 3 4
Per doz.....47c 55c 75c 90c

Wood.
F. H. Bright77 1/2-20%
R. H. Blued75-20%
F. H. Jap'd70-20%
F. H. Brass72 1/2-20%
R. H. Brass70-20%

SCYTHES.
Clipper, Grass.....per doz. \$13 50
Honest Dutchman.. " 13 00

SETS.
Nail.
Square head.....per doz. 1 24
Cup point, knurled " 1 73

Rivet.
Farmers'per doz. 2 50
Tinners' 3-4 5 75
" 00-0 3 75

Saw.
Atkins No. 10.....per doz. \$2 80
" No. 12..... 6 20
Disston's Monarch " 9 90
Disston's Monarch " 13 20
" No. 12 13 20
Lesch's 3 15
Nash's Hand " 4 20
Nash's X-cut " 1 30
Stillman's Lever " 2 50
Stillman's X-cut " 7 50
Whiting Pattern
No. 21
Eccentric Anvil,
Hand No. 295,
N. P. Morrill Pat-
tern 14 50

SHARPENERS, SKATE.
Diamondper doz. \$1 60
Perfect 1 20

SHEARS Per Doz.
Nickel Plated, Straight, 6" \$12 90
" " " 7" 14 25
" " " 8" 16 30
Japanned, Straight6" 11 00
" " " 7" 12 40
" " " 8" 13 80

SHEAVES, SLIDING DOOR.
Common. 3 4 5
Per set\$1 40 1 75 2 40
Hatfield's.
Per set \$1 80 2 10 2 75 25

SHELLERS, CORN.
Unionper doz. \$6 75

SHIELDS.
Expansion Bolt Shields.....60%

SHINGLES. Per Square
Zinc (Illinois) \$15 00

SHOES.60%
Conductor60%

SHOT—See Ammunition.

SHOVELS AND SPADES.
Coal.
Hubbard's
No. 1 \$16 00 15 10 14 45 13 70
2 16 35 15 60 14 85 14 10
3 16 75 16 00 15 25 14 45
4 17 10 16 35 15 60 14 85

Post Drains & Ditching.
Hubbard's
Size A B C
14" 17 15 16 40 15 65
16" 17 50 16 75 16 00
18" 17 85 17 10 16 35
20" 18 20 17 45 16 70
22" 18 55 17 80 17 05

Snow.
Hubbard Special,
Long Handle\$10 00
D-Handle 11 00
Sidewalk Scraper 6 50

Alaska Steel.
D-Handleper doz. \$3 50
Long Handle " 3 00

SINKS.
Painted, 16x24Net
Enameled, White, 16x24.. "

Wrought Steel.
Painted, 16x24

SKATES. Per pair
Ice.
Key Clamp Rocker, Men's
and Boys'—best steel
runners, bright finish...\$0 91
Same—nickel plated finish 1 18
Key Clamp Hockey, Men's
and Boys'—polished cast
steel runners 1 24
Children's Extension Bob.. 55
Half-key Clamp Rocker—
Women's and Girls'.... 1 15
Half-key Clamp Hockey—
Women's and Girls'.... 1 51
Racers, aluminum finish,
including shoes 9 00
Hockey, aluminum 9 00
Both same prices for men's and
women's.

Roller.
Ball Bearing—Boys' 2 25
Ball Bearing—Girls' 2 45

SNAPS, HARNESS.
Covered SpringAdd 30%
Judd's Pattern. Add \$2 1-5% to list

SNATHS.
Double Ring, Bush..per doz. \$9 75
Patent Loop, Bush.. " 10 00
Patent Loop, Grass. " 8 75

SNIPS, TINNERS'.
Clover Leaf40&10%
National40&10%
Star50%
MilcorNet

SPRINGS, DOOR.
Perfect.
Nos. 2 3 4 5 6 7
Per doz. 45c 50c 55c 65c 80c 90c

Reliance.
Light Medium Heavy
Per doz.....\$1 80 2 40 3 75
Torrey'sper doz. 1 65

SPRINKLERS, LAWN.
Stearns' No. 1.....per doz. \$11 50

SQUARES.
Steel and Iron.....Net
(Add for bluing, \$3.00 per doz. net)
Mitre
Try
Try and Bevel.....
Try and Miter.....
Fox'sper doz. \$6 00
Winterbottom's10%

SQUEEZERS, LEMON.
Common Wood.....per doz. \$0 70
Porcelain Lined, Wood " 1 25
Boss, malleable iron " 1 20
Iron frame porcn
bowl 1 90
Iron frame, glass
bowl 2 35
Little Giant, tin'd
iron 4 00
Drum, japanned " 3 60
Drum, nickel plated " 4 50

STAPLES.
Blind.
Barbedper lb. 21@22c
Butter, Tub " 16@19c
Fence—
Polishedper 100 lbs. \$5 45
Galvanized " " 6 15
Netting.
Galvanizedper 100 lbs. 6 50
Wrought.
Wrought Staples, Hasps and
Staples, Hasps, Hooks and
Staples, and Hooks and
Staples50&10%
Extra heavy35%

STEELYARD.
Discount 25%.

STONES.
Axe.
Hindustanper lb. New Nets
More Grit " " "
Washita " " "

Emery.
No. 126.....per doz. New Nets
Oil—Mounted,
Arkansas Hard
No. 7.....per doz. New Nets
Arkansas Soft " "
Washita No. 717 " "

Oil—Unmounted.
Arkansas Hard per lb. New Nets
Arkansas Soft.. " "
Lilly White... " "
Queer Creek... " "
Washita " "

Seythe.
Black Diamond per gro. New Nets
Crescent " "
Green Mountain " "
LaMolle " "
Extra Quinne-
bog " "
Red End " "

STOPS, BENCH.
No. 10 Morrill pat-
ternper doz. \$11 00
No. 11 Stearns pat-
tern " 10 00
No. 15 Smith pattern " 7 00

STOPPERS, FLUE.
Commonper doz. \$1 10
Gem, flat, No. 3... " 1 00
Gem, No. 1..... " 1 10

STRAIPS.
Skateper doz. \$5c&1 20

STRETCHERS.	
Carpet.	
Bullard's	per doz. \$3 90
Excelsior	" 5 25
Malleable Iron....	" 70
Perfection	" 8 20
King	" 4 50

Wire.

O. S. Elwood, No. 1 per doz. Nets	
O. S. Elwood, No. 2	"

SWIVELS.

Malleable Iron	per lb. \$0 10
Wrought Steel	per gro. 4 50

TACKS.

Bill Posters' 6-oz., 25-lb. boxes.	
per lb.	15c
Upholsters' 6-oz., 25-lb. boxes, per lb.	15½c

TAPES, MEASURING.

Asses' Skin	List & 40%
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THERMOMETERS.

Tin Case	per doz. 80c & \$1 25
Wood Back	" \$2 00 & 12 00
Glass	" 12 00

TIES.

Bale.	
Single Loop, carload lots75 & 7%
Single Loop, less than car lots70 & 15%

TOOLS, SAW.

Disston's Universal	10%
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TRAPS.

Game with Chains.	Per doz.
Victor No. 1	\$2 01
Oneida Jump No. 1	2 75
Newhouse No. 1	5 62

Mouse and Rat.	List per gross.
Sure Catch Mouse Traps..	\$ 3 70
Vim Mouse Traps	3 70
Short Stop Mouse Traps..	3 20
Wood Choker Mouse Traps, 4 hole	17 00
Sure Catch Rat Traps	16 00
Vim Rat Traps	16 00
Short Stop Rat Trap	15 00
Dead Easy Rat Traps	17 00
Star Rat Traps	50 00
Erie	54 00
Packed in One Bushel Band Stave	

Baskets.

	List per bushel.
Sure Catch Mouse Traps (350 Traps)	\$ 9 30
Short Stop Mouse Traps (350 Traps)	8 00
Sure Catch Rat Traps (54 Traps)	6 00
Short Stop Rat Traps (54 Traps)	5 60
Assorted Mouse and Rat Traps.	
	List per bushel.
Sure Catch (216 Mouse Traps and 26 Rat Traps) ..	\$8 50
Short Stop (216 Mouse Traps and 26 Rat Traps) ..	7 50

TROWELS.

Cement.	
Atkins No. 6	19 50
" No. 9	25 50
Disston's	30%

TRUCKS.

Bag	each \$3 75
Warehouse or store, No. 1, each	\$24 50
No. 2, "	22 50

TUBS, WASH.

Standard, Wood.	Ex.
Nos. 3 2 1 large	
Per doz. \$9 50 11 25 12 75 15 50	

Galvanized.	
No. 1 3 3	
Per doz. 13 75 15 95 18 60	

TWIN.

White Cotton.	
Eureka, 4-ply	per lb. 30c
Jute.	
3-ply and 6-ply Bale Lots ..	22½c

VALLEY.

Formed Valley Galvanized Steel	60-5%
Milcor	Net

VISES.

No. 700, Hand, Inches 4½ 5 5½	
Doz. \$11 15 13 00 14 85	
No. 701, In. 4 5 6	
Doz. \$11 15 13 00 16 70	
No. 1, Genuine Wentworth, Noiseless Saw	per doz. 15 00
No. 2, Genuine Wentworth, Noiseless Saw	per doz. 22 50
No. 3, Genuine Wentworth, Noiseless Saw	per doz. 20 00
No. 500, All Steel Folding Saw	per doz. 16 00

WASHERS.

Standard O. G. cast iron, per lb.	3½c
Wrought steel in 5-lb. boxes, per lb.	
In. 3/16 ¼ 5/16 ¾ ¾	
15c 14c 13c 11c 10c	
¾c 9c 8c 8c	

WEDGES.

Ax.	per doz. Nets
Galling	per lb. Nets
Saw	per lb. 8½

WEANERS.

Calif.	
Fuller's, per doz. \$2 00 to \$2 50	
Tyler's Safety, per doz.	1 85 to 2 40
Carroll's, per doz.	3 00 to 3 75
Hoosier, per doz.	3 50 to 4 60
Shaw Perfected..	3 00 to 3 75

WEIGHTS.

Hitching	per lb. Nets
Sash—f. o. b. Chicago.	
Ton lots, per ton	\$40 00
Smaller lots, per ton	42 50

WHEEL BARROWS.

Common Wood Tray	\$3 00
Steel Tray	4 50
Angle leg, garden	5 75

WHEELS.

Carborundum	50%
Emery	60%
Well, Ins. 8 10 12	
Per doz. \$5 50 7 25 8 50	
12-in. heavy holsting, per doz.	\$25 00

WIRE.

100 lbs.	\$3 45
100 lbs.	\$2 25
Galvanized barb wire, per 100 lbs.	4 15
Wire cloth—black painted, 12-mesh, per 100 sq. ft.	2 50
Cattle Wire—galvanized catch weight spool, per 100 lbs.	4 15
Galvanized Hog wire, 30 rod spool, per spool	3 85
Galvanized plain wire, No. 3, per 100 lbs.	4 00

WOOD FACES.

50% off list.

WRENCHES.

Coes Steel Handle, 6-inch	30%
" " " 8- "	30%
" " " 10- "	30%
" " " 12- "	30%
Coes Knife-Handle, 6- "	30%
" " " 8- "	30%
" " " 10- "	30%
" " " 12- "	30%
Coes All Patterns	30%
Bemis & Call's:	
Adjustable S, 10% Adjustable S Pipe, 10%; Briggs' pattern	30%
Combination Bright	25%
Steel Handle Nut	30%
Combination Black	25 & 5%
Merrick Pattern	30%

Knife Handle Pattern.

No. 62, Screw Wrench, List plus	30%
No. 60, Steel Handle	30%

WRINGERS.

No. 790, Guarantee, per doz. \$60 00	
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